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THE POWERING OF FULL CARGO SHIPS. See p. 370.

SHIPBUILDING AND SHIPPING RECORD

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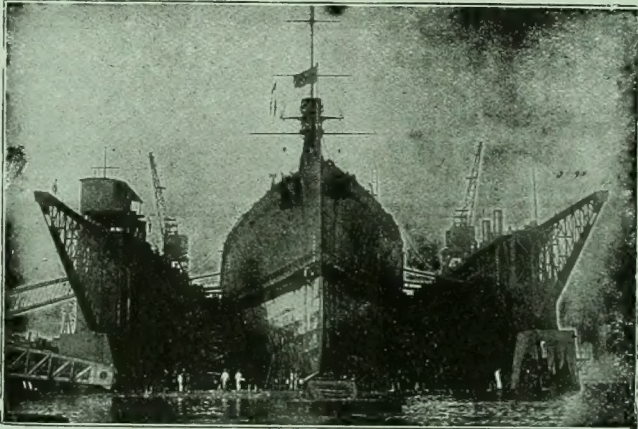
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GENERAL NEWS SECTION.....

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SIR ALFRED YARROW is to be congratulated upon the success which has attended his effort to assist in the hunting of the enemy submarines. It is within the recollection of all

that a few months ago Sir Alfred made the

The Element public-spirited offer of a reward to those men
of Surprise. who first see and report an enemy submarine.

Every now and again one has noticed in the papers that the reward has been presented to some man or boy for sighting a submarine before his shipmates have noticed it, until up to October 1 the award had been made no less than 172 times. According to the naval correspondent of *The Times*, out of the cases thus analysed, the number of vessels attacked and sunk by torpedo was 12; the number attacked and sunk by gunfire was five; the number attacked and damaged seriously, but not sunk, was also five; the number attacked, but which escaped without serious damage, was 65; and the number which observed submarines, but which were not attacked, was 86. It is obvious that it is of the utmost importance to bring these vessels into port without damage of any kind, and over 85 per cent. of the vessels for which claims were made accomplished this successfully, while nearly one-half, or 49.7 per cent., got in without being attacked at all. It is, of course, well known that the success of submarine tactics depends almost entirely on being able to surprise the intended victim before he is able to take measures of self-preservation; and it appears from the figures quoted that if this element is eliminated by keeping a sharp lookout, the chances of the vessel escaping are enormously increased.

An occasion for a ministerial review of the war position, and incidentally also of the shipping situation, will shortly be forthcoming. Parliament resumes its sittings this

Shipping Policy.

week, and a vote of credit will be required to finance the war. Two months have passed since the Prime Minister made a statement to the

House of Commons on the broad position of British shipping in the presence of the submarine campaign, and the matter is so important that an account of the situation, so far as it can be revealed without detriment to the public interest, is again due. The grant of a sum of money for the purposes of the war forms a natural opportunity for such a statement. The time is now also approaching when a more detailed recapitulation of the policy which has been followed by the Shipping Controller and of the administrative measures which he has taken may be legitimately demanded by the House of Commons. Sir Joseph Maclay has now been 10 months in office, and it has become evident that arrangements made by the Ministry may have very far-reaching effects on shipping and shipbuilding in the years that will succeed the conclusion of peace. We pass no criticism on the Ministry of Shipping or its head when we say that in these circumstances a comprehensive statement of its achievements and its intentions is due to the country.

The American papers now to hand contain details of the American shipbuilding programme now being accelerated by the authorities at Washington, cabled advices of which reached

Accelerating American Shipbuilding.

this country the other week. It appears that the United States Shipping Board is contracting with the Submarine Boat Corporation for 200 steel cargo vessels of 5,000 tons each, the first hull of which is to be launched next February. The vessels are to be 350 ft. long and will be propelled by Westinghouse geared turbines to make a speed of 10½ knots. Water-tube boilers using either coal or oil will be installed. Work on the first 50 vessels will be commenced at the Port Newark yard and 12,000 men are to be employed. The American International Corporation, which owns the New York Shipbuilding Company, has undertaken to build 50 steel standard vessels of 7,500 tons deadweight, the order to be increased in time to 200 ships. The cost is estimated to be about £250,000 each ship. A variation of the cost-plus-commission basis has been agreed upon for these contracts. Profit is allowed up to a certain point only, but in the event of the price being lower than the estimate, the difference will be shared between the Government and the shipbuilders. The percentage of profit is estimated variously between 6 and 8 per cent.

The Italian Government has sought a solution to the missing vessel problem on very original lines, as will be seen from a decree which has just been published. According to a

Italy's Solution of Missing Vessel Problem.

translation before us, the principal enactment of the measure provides that in the event of no evidence being forthcoming as to the manner of loss of a missing vessel, the settlement of the claim shall be made on the war insurance policy. This is somewhat drastic, and the severity of the ruling is only slightly mitigated by a provision that if evidence can be found, proving that a loss has been paid on the wrong policy, the underwriters who have paid can obtain a refund of their settlement, the claim being readjusted on the correct basis. A limit of two years after the declaration of peace is fixed for such readjustment, and the time provided is probably ample, but there is no evidence of any measure of reparation for the loss to underwriters through being without the use of such moneys as may have been paid in error. The measure is sound in its principle, however, and provides the most practical solution of this difficult problem of which we have yet heard. A further wise proviso in the decree recommends itself

to us by its simplicity and its boldness. The amount recoverable by the owners is limited by the amount for which they are insured under their marine risk policies, and any excess insured against war risk is to be compulsorily invested in war loan. It is well known that in many cases owners insure their vessels for larger amounts against war than against marine perils, and the enforcement of a law such as that referred to makes for equality in the amounts placed, and should have the effect of keeping insured values of Italian vessels at a high level.

It is now no secret that the Government has been running the risks, usually covered by insurance, on vessels which have been

White Sea Insurance Suspensions. taken over for White Sea voyages, the policies of insurance being suspended by a special agreement from the time the vessel is taken over until re-delivery to the owners. This agreement was practically standardised, and familiarity with its terms should be acquired by all who are likely to be affected by the practice referred to. The chief point to study is that which deals with the returns to be settled for the period during which the insurances are suspended. These are reckoned on a daily *pro rata* basis whilst the vessel is at the Government's risk. In the event of a vessel being lost by a marine peril whilst the suspension is in force, the return is collectable up to the expiry date of the policy. In the event of the loss occurring through a war peril, the return can only be collected up to the date of loss, the balance of premium remaining in the underwriter's hands. Even if the vessel is lost in this manner during the first week of the currency of the policies, no further return can be obtained by the owners.

We have several times referred to the manner in which the insurance market is expanding by the addition of new companies,

Multiple Underwriting Accounts. or by companies undertaking marine business which have hitherto not been in that market. We have pointed out that although there is room for expansion along the right lines, there is danger in the irresponsible entry of concerns which look no further ahead than the immediate profit which they hope to acquire under existing conditions. It seems to us that to this danger is added another and a more subtle one. We refer to the growing practice of several firms employing one underwriter to accept risks for their account. This, carried to an extreme, would mean that an exceedingly large line could be written by one underwriter representing several firms, none of which amount to much as units of the market. Such a tendency is strongly to be discouraged. The absorption of a large amount of business by one firm tends to eliminate the competition necessary to maintain rates at a reasonable figure; on the other hand, the cutting of rates, which can be checked when a risk is being placed in small lines throughout the market, is more easily effected when the whole of an order can be placed in one office.

The British shipowner has so many critics in these days that few people are to be found with courage enough to say a word in

The Shipowner's Critics. his favour. Even the representatives of other British commercial interests which nominally sympathise with him in his unpopularity are to the fore with words of caution regarding his reconstruction policy. The Associated Chambers

of Commerce, for instance, seem to suggest in their comments on the Chamber of Shipping's proposals that, while it is very natural and quite proper for the shipowner to look after himself, he must not do anything which might hurt other British commercial interests. Shipping is not, he is told, a basic industry, and so forth and so on. The important fact is ignored in all reasoning of this character that the British shipowner's complaint is not against natural, but against artificial, conditions of competition. Under natural conditions he will be able, as he has always been, to give British com-

mercial interests cheaper transport than any of his rivals. If, however, the conditions are artificial—if, that is to say, rivals are directly subsidised or indirectly given privileges which have the effect of State aid—he obviously cannot do so. Is the idea of the critics that, in these circumstances, the British shipowner should be further penalised by losing British freights? His desire is, as we have more than once pointed out, for neither higher freights than his rivals get, nor for State aid, but simply for fairplay. Wherever a competitor is in enjoyment of a State-conferred advantage which operates to the detriment of British shipping, it ought, quite clearly, to be neutralised. Most of the pre-war conference arrangements were, for instance, due to the fact that it was not.

So far as the Dominions, Crown Colonies, and Protectorates are concerned, the shipping situation like that in most other parts of the world is serious. Nevertheless, it might be much worse, and it is believed that the measures now being adopted will soon result in a material improvement.

Colonial Shipping Position. Apparently, Australia and New Zealand occupy the least favourable position of the countries affected, chiefly in consequence of the enormous stocks of wheat and meat which they hold, and which they find difficult to move, owing to the shortage of transport space. Indeed, the Federal Prime Minister recently stated in the House of Representatives that the Imperial Government was unable to ship a single bushel of wheat during the month of June, and, according to the latest advices, there is in Australia accumulated cargo sufficient for 15 refrigerated steamers, and 548 general traders. Yet we hear that the vessels which Mr. Hughes bought last year are now carrying goods from other parts of the world at high rates of freight, although the purchase was made on the understanding that they were solely to be used for the carriage of Australian produce. The Government of Victoria has decided to drop the bulk-handling scheme for the present, and proceed with the provision of facilities for the storage of the grain. As regards the Commonwealth generally, it is estimated that by the end of this year there will probably be some 3,200,000 tons of old wheat on hand, in addition to the harvest that will be then in process of garnering, and seeing that 1,200,000 tons represent the largest quantity shipped in a year in pre-war days, the difficulty with which the authorities responsible have to deal can well be appreciated. As far as can be ascertained, nothing of a definite nature has been heard of the proposal that Australian wheat should be sent to the Pacific coast of the United States in exchange for a similar quantity of American grain to be shipped from the Atlantic coast to Europe, so as to ensure a quicker turn round of tonnage, but it is understood that this is receiving consideration.

A curious, not to say deplorable, situation has arisen in connection with shipping at South African ports. In fact, the proceedings

South African Regulations. in recent Courts of Inquiry have brought this to a head, and it is to be hoped that the marine insurance interests will take up the question, if they have not already done so. It appears that before union the Merchant Shipping Acts of Great

Britain were embodied in the Natal marine laws, and, accordingly, full cognisance was taken of the Board of Trade regulations for the safety of life at sea. But since union, the Railways and Harbours Act has been passed; the Natal marine laws have been repealed; and yet the provisions of the former measure, in so far as they secure the control and supervision of vessels registered within the Union, or of other vessels loading or bunkering at a Union port, have not been promulgated. In short, the old authority has been abolished, but the new authority is not yet in force. Therefore, it is nobody's business to prevent a ship from leaving harbour if overloaded, or improperly loaded, or insufficiently manned, or without qualified officers or engineers. The berthing master may or may

not notice anything wrong, but he is not required to do so. In the case of one vessel which recently sailed from Durban, and which has not been heard of since, it was stated that the master held a Norwegian and not a British certificate, and that it would have been impossible to prevent him taking command, unless the authorities were prepared to test his qualifications as to fitness, for which no legal machinery existed. Moreover, the mate only possessed a fishing skipper's certificate. Under Section 4 of Act 22, which came into force on August 1, 1916, power is given to the Administration to make the necessary regulations, and the official answer in the House of Assembly to a question on the subject was that the rules covered a large variety of matters of considerable complexity which have necessitated very careful consideration. They have been completed in draft form, the Minister added, and would be made effective at the earliest possible date!

The announcement that the members of the Amalgamated Society of Engineers are to be balloted for or against continuation of the connection with the Federation of **Engineers and Engineering and Shipbuilding Trades** was not unexpected. The reasons for the decision are rather involved, and, on that account, difficult to explain. But the principal one is a fundamental difference of opinion between the Society and the Federation on the subject of organisation. As it is at present constituted, the Federation is a group of trade unions contributing equally to its funds and equally represented in its councils. A union with a membership of a quarter of a million and funds of nearly two million pounds sterling is of no more account than, say, a union with a membership of a thousand and funds of only ten thousand pounds. The idea of the Amalgamated Society of Engineers is, on the other hand, absolute amalgamation of all the unions of skilled metal workers. Obviously, if there were such a combination, the forward policy of the premier engineering trade union would be much more effective. As matters stand, it is not at all effective, thanks, it is alleged, to the action, independently and collectively, of the smaller sectional societies belonging to the Federated Trades. The negotiations over payment by results and dilution on commercial work are cited as typical disadvantages of affiliation. If the decision is to secede, the engineers will, indeed, be splendidly isolated, for they will then belong to no national body except the Labour Party.

So much is in the air about State-ownership after the war of shipbuilding yards and shipping that some official announcement regarding the Government's intentions—especially its intentions with respect to shipbuilding—would serve a useful purpose. It is said that the "control" of private undertakings is to last for two years after the end of the war. Has any limit been definitely put to the control? Are the national yards to continue indefinitely after the hostilities come to an end, or are they, as soon as possible, to be transferred to their original or other owners? Are there, in fact, in high or low official circles, any views as to how long it will be after the war before the industry is free to return to the normal? Years must elapse, of course, before the conditions are really normal; but, as matters stand, the deadweight of control, the uncertainty about the future, and the talk about nationalisation are unmistakably doing serious harm to what was in pre-war days a rather fine industrial organisation. We doubt most of the stories which are current concerning the placing of contracts for after-war execution, simply because it would call for superhuman nerve to make deals of the kind with the position and prospects as uncertain as they are. No doubt, most of the important liner interests know where their new vessels are to be built. As much, however, cannot safely be said about the cargo-boat interests. An official announcement concerning the future would serve to clear the air for everybody, and it is to be

hoped that somebody or other in authority will make one. It is not suggested that anybody should take it upon himself to forecast the date on which the war will end. The obscure points which it is desirable to clear up are (i) Is the State going out of shipbuilding? (ii) If it is, how soon after the end of the war is it going out?

It has been found that it is not always advantageous to make the most out of given dimensions by increasing the block coefficient beyond certain limits. Some owners consider the general efficiency of a vessel to be measured only by the amount of deadweight which can be carried on a ship of a certain size. It is comparatively easy to produce a vessel which would indicate a large deadweight ratio, and this has been obtained, at times, by making the block coefficient as full as .83. Some interesting comparisons, however, may be made between vessels carrying the same actual deadweight, but with different coefficients of fineness, and, accordingly, varying in dimensions. The finer the vessel is made the more the dimensions would be increased, and the greater the initial cost would become. Shipowners are inclined to emphasise too much on the original cost, and would hesitate before ordering a costlier vessel to undertake the same work as one which could be built for considerably less money. A finer and larger vessel might offer compensations which would more than repay the additional cost. The decrease in fullness might bring about a reduction in horse-power and, accordingly, in fuel consumption, which would go far to recoup the shipowner. The freight-earning cargo would be increased in the finer ship by the less amount of coal consumed per voyage, and this again would help to compensate for the greater cost. It is probably the case that the coefficient of fineness at present in favour for cargo ships, viz., about .77 or .78, is that to which experience has directed as being neither too full nor too fine; not very resistant, either in calm weather or in rough, nor involving either additional cost nor restricted deadweight capacity.

One of the greatest disadvantages of the Diesel engine is the liability of cylinder liners and pistons to crack as a result of the high temperature to which they are exposed, and it may safely be asserted that one of the most important reasons for the limitation of the power which can be developed per cylinder is our inability to successfully counteract the effects of the high temperature. Some interesting remarks were made on this important subject in the course of a paper by Mr. J. E. Hurst on "Notes on the Heat Treatment of Cast Iron," recently read before the Iron and Steel Institute, in which it was pointed out that whilst design was most frequently the cause of cracked pistons, due to irregularity of heating, there was also a lot of trouble caused by lack of homogeneity of the metal as cast, and further increased by the action of the oil flame when running. It was found that as a result of the treatment the cast iron of the piston receives in the Diesel engine cylinder there is a reabsorption into the mass of free carbon in the combined condition, more particularly in the presence of high phosphorus—say, over 1 per cent. It is found that by the reduction of the phosphorus content of the cast iron to the lowest possible limit, the life of the pistons is considerably prolonged, and the troublesome cracking practically eliminated.

The economical advantages obtaining with high temperature steam are well known, but the maximum temperature which can be safely used depends on the type of machinery employed. With reciprocating engines this temperature must be limited to about 550° Fahr., owing to the difficulties met with in the lubrication of the internal parts, but with turbine engines where internal lubrication is unnecessary much higher temperatures can be carried, provided suitable materials are

employed in its construction. In land practice temperatures of from 700° to 750° Fahr. have been safely carried with material advantages in economy, and the general tendency with marine work at the present time is to proceed in this direction for the obtaining of better fuel economy. In *The Times Engineering Supplement* for September some figures are given regarding a series of tests carried out on a 1,500 k.w. impulse turbine at the works of the British Thomson-Houston Company, which shows clearly the benefits obtaining with high-temperature steam combined with high vacuum. The turbine operates with steam of 350 lb. pressure superheated to a total temperature of about 700° Fahr., exhausting into a condenser of 28½ in. vacuum. Under these conditions the steam consumption at full load is given at 11·2 lb. per k.w. hour or just over 8¼ lb. per horsepower hour, including generator and excitation losses, whilst at the lower loads of 80 per cent., 70 per cent. and 50 per cent. of full load, the corresponding figures are 11·6, 12·0 and 12·8 lb. per k.w. hour. For marine work a somewhat lower working pressure even with water-tube boilers would be desirable, but the figures given are sufficient to show the possibilities with higher pressures and temperatures.

THE ARGENTINE NAVIGATION COMPANY.

IT has been rumoured for some time past that the Argentine Navigation Company was about to pass under the control of English shipping interests. It is now definitely stated that the interests of Señor Nicolas Mihanovich have been acquired (under an agreement completed on Saturday last) by interests represented by the Royal Mail Steam Packet Company, the Lamport & Holt Line, and associated companies, and that three French companies (the Transports Maritimes, the Chargeurs Réunis and the Sud-Atlantique) and the Italian shipping company, Transatlantica Italiana, have taken a substantial holding in the company. The announcement is a welcome one, not only on national, but also on financial grounds. The Argentine Steam Navigation Company was formed as an English company in 1909 to take over and develop the steamship enterprise founded by Nicolas Mihanovich in 1876. For many years Señor Nicolas Mihanovich had acted in Argentina as the Consul-General for Austria-Hungary and in 1913 was created a Baron of Austria-Hungary. His position as chairman of a company whose shareholders were at war with a country with which he was closely identified must have been a very difficult one. It is therefore satisfactory that the passing of his interests into the hands of citizens of the Allied Powers has now been brought about.

The company has an authorised and issued capital of £2,000,000 in 1,600,000 ordinary and 400,000 preference shares. Of the capital 1,400,000 ordinary and 100,000 preference shares formed part of the payment of £2,120,000 to the vendor (Nicolas Mihanovich) when the company was converted into an English-registered undertaking. There were also issued debentures to the value of £1,100,000, but during the past year the debentures have been repaid by the sale of vessels. Just before the outbreak of war the company was contemplating the development of its Buenos Ayres-Monte Video service, and two twin-screw turbine geared steamers, with a speed of 18 knots per hour and capable of accommodating 800 passengers each, were built for the company by Cammell Laird & Co., and despatched to Buenos Ayres. The southern service did not respond as the managers had anticipated and the two boats were taken off, their passenger accommodation removed, and the boats put on time-charter between the United States and France. Towards the end of 1916 they were sold to our French allies. Several of the company's river steamers and tugs were also disposed of and out of the proceeds of these various sales the debenture debt has been extinguished, leaving the company, we believe, with only its share capital of £2,000,000. During the past three years the profits have been very disappointing to shareholders. For the four years from 1909 to 1913 dividends aggregating 34 per cent. were paid on the ordinary

shares, and nothing since, whilst the preference shares which are entitled to 6 per cent. and to 10 per cent. of the total divisible profits of each year have only received 42 per cent. for the seven years since the company was formed, namely 9 per cent. for 1909-10, 10 per cent. for each of the three years 1911-13, and 3 per cent. for 1914, leaving 15 per cent. in arrears up to June 30 last. The improvement in the price of the shares during the past year is an indication that a revival of the company's profits is anticipated from the changes in ownership which have now been brought about. The company's business is at present almost entirely confined to internal river transport, but developments may be anticipated in its operations.

Argentina has over 3,000 miles of river available for navigation and nearly 2,000 miles of sea coast, and the company's vessels are engaged on all this extent of waterway. It conducts a service across the estuary of the River Plate between the capitals of Argentina and Uruguay, another service between Argentina and Paraguay (over 1,000 miles), and another service navigates the waters of the Uruguay to meet the requirements on both the Argentine side and that of the neighbouring Republic. At the time (30 years ago) when Nicolas Mihanovich started the enterprise, railways were not built throughout the Argentine to the extent that they are to-day. When Mihanovich first raised his flag the Buenos Ayres Great Southern Railway covered only 270 miles (to-day it reaches to nearly 4,000 miles), and the Central Argentine Railway had only just obtained its concession. Railway competition had become a serious matter just before the declaration of war in Europe, and shareholders were anxiously asking questions at the meetings in London as to the possible effect of the competition then threatened by Mr. Farquhar's schemes. The latter have disappeared, but the possibility of keen railway competition, especially on the Buenos Ayres-Asuncion route, remained. With the control of the undertaking passing into the hands of the Allies this competition is rendered largely nugatory, because the controlling interests can serve as feeders through their steamship services and *vice versa*. The advantage of through freights and passenger tickets under one controlling body is already recognised all over the world, and it now becomes possible for goods or passengers to be shipped from England to the most remote up-river settlement in the interior of Paraguay or Argentina without railway transportation or any change of carrier. It is this fact that gives to the change a very significant meaning in connection with the future trade developments of the Allies in South America in competition with the Central Powers, and the nation owes a debt of gratitude to Sir Owen Philipps for having successfully conducted the negotiations which have led to this result.

LABOUR AFTER THE WAR.

IF there were no other evidence to go on than is provided by the periodical literature of the day, the average man would be quite justified in assuming that an improvement in the relations of the United Kingdom's employers and employees is not an immediate probability. There is no need to take up time or space in indicating what the available evidence is, for everybody has access to it. The fact which we desire to impress upon the reader, to begin with, is, in any case, that the available evidence, as we have called it, is not the only evidence which is relevant. Newspapers and other periodicals are, it is true, full of suggestions for the improvement of the post-war relations of Capital and Labour, and many of the suggestions—the majority made by extremists in the ranks of Labour—seem to be hopeless. Their design is, in fact, not to improve the relations of Capital and Labour, but frankly to revolutionise them. When he reads these revolutionary proposals, and the comments—most of them unauthorised—of the friends of Capital on them, the average man not unnaturally is pessimistic about the future.

But in order properly to appreciate the position, he needs to look a little more into the depths of the matter. There are even important facts on the surface which he ignores. For instance, no collective body of employers belonging to a single important industry has yet made any definite pronouncement on the subject of after-war conditions. An employer, here and there, has expressed a personal opinion—in a speech or an interview or a letter—and sections of employers, belonging to different industries, have put their names to reconstruction reports. What the collective views of important groups, such as the Engineering Employers' Federation and the Shipbuilding Employers' Federation are, nobody outside the inner circles of these organisations knows, and until it is known what the views of these and other important interests are, it is manifestly unwise to draw conclusions as to the hopelessness or otherwise of the position. Outsiders who take it upon themselves to discuss the matter no doubt mean well; but obviously the only opinions that are of any value are those of people directly concerned.

Another surface fact which the pessimist ignores is that, so far, no important trade union, such as the Amalgamated Society of Engineers or the Boilermakers' Society, has definitely and officially stated its views on the subject of after-war conditions. Both of the organisations named, as well as a number of others, have, it is true, made it plain that they look for complete restoration of pre-war conditions. But that is the orthodox view, and most professions of adherence to it are tactical. No doubt, the average man ignores this particular surface fact because he is impressed by "the revolutionary tendencies" of the rank and file. The current sayings and doings of the rank and file are certainly disquieting. They are convincing enough as evidence of ferment. But as it is easier to over-rate than to under-rate the importance of signs of the kind, we counsel the reader to go a little more deeply into the matter before drawing definite conclusions.

Almost the first fact which will impress him if he embarks on this closer investigation which is suggested is that the rank and file of Labour has not one, but many voices. On some details, such as wages and working hours, there is, without a doubt, unanimity; but on many others—payment by results, for example, or dilution of skilled labour—there is not. There is even a serious cleavage of opinion on the fundamental question of Craft Unionism *versus* Industrial Unionism. The rank and file movement is, in fact, not a homogeneous movement at all in the sense that it moves with a single purpose towards a definite objective. It has no set policy for after the war, simply because the objectives of its elements, and the means of achieving them which are in favour with the different sections, are irreconcilable. If that were not so, the movement would not have to work unconstitutionally. It would be able to capture the whole Trade Union machine from branch to executive, and up to date its successes in elections have been few and far between. The significance of its failures of this kind is, we submit, that it is still a minority.

For further proof that Labour, as a whole, has no common purpose with any bearing on the question of post-war conditions, we need go no further than the shipbuilding and engineering industries. A great many things are written and spoken by representative shipyard and engine-shop men which suggest that there is a single purpose and a definite policy. Nobody, however, condescends to details. Everybody talks in the vaguest possible way, with the inevitable result that practically to no two workers is the prospect alike. If there were a common aim in shipbuilding regarding post-war conditions, is it conceivable that the Boilermakers would be found acting independently of the Shipyard Joint Trades? Why do they hold aloof from the other trades when the movement as a whole would be strengthened by their adhesion? The secession of the Amalgamated Society of Engineers from the Trade Union Congress took place so long ago that it can hardly with fairness be cited as proof that the premier engineering union has not the

same post-war aims as the three million odd workers who are regularly represented in Congress.

Still, the fact remains that the Amalgamated Society of Engineers is not affiliated to either the Trade Union Congress or the General Federation of Trade Unions, and is further understood to be of a mind to detach itself from the Federation of Engineering and Shipbuilding Trades, whose constitution and policy has been for some time distasteful to it. Moreover, how can there be said to be a common aim in Labour with regard to post-war conditions when we find an important organisation like the Amalgamated Society of Engineers in disagreement with the Miners' Federation, the National Union of Railwaymen and the unions of semi-skilled engineering workers on the question of Craft Unionism *versus* Industrial Unionism, and with the other engineering and the shipbuilding trades unions on fundamental questions of organisation as well as details of policy like payment by results and dilution of skilled labour?

The reader is not to assume that in drawing attention to these facts we are anxious to make capital out of Trade Unionism's lack of a common post-war aim. In our opinion, it is a pity that there is so little unanimity, for when the time comes for employers and employees to frame post-war conditions, the stability of the adjustments will largely depend on the character of the Labour representation. Only with Trade Unionism united on a definite and clear policy will lasting settlements be possible. Our desire in writing as we do is, if possible, merely to induce the average man to moderate his pessimism regarding the future. He need not lightly regard the revolutionary tendencies of the extremists in Labour. But if he is wise, he will not exaggerate their importance, for in all probability the opinions of Labour as a whole will undergo a great change when the time comes for the discussions by practical men of the practical issues.

THE LIMITATIONS OF THE MARINE STEAM TURBINE.

THERE are many engineers who will boldly assert that the day of the steam reciprocating engine is past, but we do not think that many marine engineers will be found who agree with that dictum. Amongst academical engineers—and the qualification is used without reproach—the superior efficiency of the steam turbine and the many mechanical advantages possessed by this type of engine are urged as good and sufficient reasons for the ultimate disappearance of the steam reciprocating engine, but the practical marine engineer is aware of three fundamental limitations attached to the application of the steam turbine for ship propulsion, which until they are successfully overcome—and it cannot yet be claimed that they have been overcome—will largely mitigate against the universal adoption of the turbine for marine work.

In the first place, the greatest drawback to the turbine is that it is non-reversible, and it is therefore necessary to instal special turbines for driving the ship astern. Not only does this result in a complication of steam piping and valves in the engine room, but it is, from the economic standpoint, a very unsatisfactory procedure to be compelled to instal expensive machinery which is only in operation for a few minutes during each voyage. A vessel is built for, let us say, a service in which the voyage occupies one week. Whilst manœuvring out of harbour, and in again at the conclusion of the voyage, the astern turbines may be in operation for intervals totalling perhaps to one hour, but during the intervening week the chances of these ever being required are remote, and they must therefore run idle, a source of loss financially as representing idle capital, and mechanically owing to the energy continually required to drive them. There is no way of minimising the former loss, but the latter is reduced to the lowest possible figure by connecting the astern turbines to the condenser, so that the rotors run in a vacuum, the friction being thus reduced to a minimum. But it

is apparent that this necessitates the employment of more powerful condensing apparatus than would otherwise be required for the maintenance of a given vacuum.

Secondly, it must always be borne in mind that the steam turbine is essentially a high-speed engine, and that the best results can only be obtained with high blade velocities. The screw propeller, on the other hand, is a low-speed device, and hence it became necessary to design turbines having a low speed of rotation. This involved either a low efficiency or a machine in which the blade speed was kept high by the employment of a rotor of large diameter. The successful development of the mechanical reduction gear has tended to eliminate this disadvantage, as by the employment of gears we are able to utilise efficient high-speed turbines and still have propellers running at speeds for which they are best suited.

Again, whilst the steam turbine is very efficient at the speed and load for which it is designed, it is found that the efficiency falls rapidly as the speed decreases below the designed speed and as the volume of steam flowing through the turbine is diminished. This is the third limitation to which we have referred, but it is to be remembered that this does not apply with any great force to the turbines designed for merchant vessels usually engaged on long voyages. These, as soon as they are clear of port, will have the engines running at full speed, save under exceptional circumstances, throughout the whole of the time they are at sea, until they again reach port, when slow speeds may be required for short intervals of time. But for naval vessels low speeds are often imposed for long periods of time by tactical considerations, and the uneconomical working of main turbines thus involved has led to the adoption of "cruising" turbines, specially designed for driving the vessel at slow speeds. The economic loss involved is obvious, and the most recent practice favours the abolition of the cruising turbine and the incurring of the loss due to the running of the main turbines at far lower than the designed speed. But it is only a question of deciding which is the lesser of two evils.

It will be recognised, therefore, that great as are the advantages which follow the adoption of steam turbines for marine propulsion, there are drawbacks to be faced as well, and that much remains to be done before we can claim to possess the ideal type of engine for marine purposes.

PUBLICATIONS RECEIVED.

[A short notice of any publication does not necessarily preclude the subsequent appearance of a longer review.]

Brown's Nautical Almanac for 1918. Glasgow: James Brown & Son, 52-58, Darnley Street. $8\frac{3}{4}$ in. $\times$ $5\frac{1}{2}$ in. $\times$ $1\frac{1}{8}$ in. 621 pp. Price 2s. 6d. net, with Baltic Lights, 3s.

A perusal of the pages of this well-known nautical almanac reveals the fact that its contents differ but little from those of last year. In two cases, however, new tables have been introduced which should be of service to navigators. One of these is designed to be of use in the construction of small sections of a Mercator Chart and should be especially helpful. The preparation of such a chart requires a separate calculation by means of the Table of Meridional Parts for each degree of latitude. The table now given obviates the necessity of such computation, and supplies the actual length in inches for a given scale of longitude.

The second table has reference to what is known as the Marcq system of finding position lines by calculated altitudes. In this method, by means of the Ball Tables, the altitude may be computed without the employment of logarithms, so long as the value does not exceed 70 deg., but for higher altitudes the process is not always reliable. By means of the Second Correction Table here given, the method is rendered practically general. The form in which the elements of the heavenly bodies are tabulated in this almanac meet very exactly the convenience of seamen.

The publishers regret that owing to the advance in the cost of paper and all materials it is again necessary to increase the price, but it is safe to say that had we not known the day when it could be purchased for less, we should never regret so modest a charge as 2s. 6d. for the wealth of information contained between the covers of this book.

LETTERS TO THE EDITOR.

[The Editor does not hold himself responsible for opinions expressed by Correspondents.]

THE BOARD OF TRADE AND SUBDIVISION REQUIREMENTS.

October 12, 1917.

TO THE EDITOR OF SHIPBUILDING AND SHIPPING RECORD.

The article under the above heading in your issue of October 4, while containing some interesting suggestions, appears to be, like many others on the same subject, somewhat one-sided.

In practically all cases criticisms have been concerned with the amount of work which is involved in the calculations, and which has to be done for the initial stages of the design. The particular portion of the work to which the greatest objection has been raised is the "correction for form," and the writer of the article mentioned above states that "when the Bulkhead Committee found that, comparatively speaking, departure from the standard had little effect on the result, it would have been a wise step to have discarded this correction altogether." No doubt the Bulkhead Committee would have adopted this course if they had found that the "correction for form" was unimportant, but apparently they found the reverse. The idea that this correction has little effect on the result appears to have been accepted by many people without being thoroughly justified. It is true that the effect of the "correction" is in many cases small, but on the other hand it is in many cases quite appreciable, and in some cases it is very important. It has been asserted that while this "correction" is a comparatively minor factor, the permeabilities can vary considerably from those adopted as standard. Apparently, it is not realised that the "correction for form" can in some cases have an effect equivalent to as much as 15 per cent. on the permeability.

It is rather unreasonable for a designer to argue that because he has found that his particular form of ship requires only a small correction for form, that this should be dropped entirely. He should rather consider himself fortunate that in the initial stages of his design he can work on the uncorrected standard form curves and know that his result will be substantially correct.

There is admittedly a fair amount of work involved in obtaining these corrections, but it has been greatly exaggerated, and if approximate methods for quickly obtaining the "corrections for form," such as were recommended by Messrs. Wall and Lovett in their papers before the I.N.A., be adopted by designers, little difficulty should be experienced.

It should be remembered that although Mr. Lovett found that the "correction for form" in his vessels was small, yet he expressed the opinion that it would be a mistake to abolish it. It has been asserted that many trades are being severely handicapped by the adoption of the standard permeability of 60 per cent. This must be true to a certain extent, but, on the other hand, would it be fair to handicap certain designers by abolishing the correction for form? In view of Professor Welch's statement that the standard form curves generally give a minimum floodable length, it appears that the most reasonable way for the Board of Trade to simplify the "correction for form" would be for them to state that it should in no case reduce the standard form curves; or, in other words, that standard form curves should be a minimum in every case. Designers could then work to these standard curves in the early stages of the design with safety.

Mr. Lovett's suggestion that different draughts should be assigned according to the nature of the cargo is not unreasonable, and the Bulkhead Committee's recommendation to assign two draughts when the vessel carries passengers and cargo on alternate voyages might be amplified to suit where wide variations in permeability occur.

The writer of the article referred to above appears to have a wrong idea of the margin line. Surely, the rule for varying thickness of deck was intended to apply to varying thicknesses of wood deck and not of steel deck?

INCOGNITO.

GERMAN CRITICISM OF THE GERMAN RECONSTRUCTION BILL.

By way of introduction to a critical analysis of the German Reconstruction Bill (the text of which was given in our issue of July 26), Prof. W. Laas, of Berlin, writing in *Hansa*, regrets the delay in passing this Bill as being inimical to speedy preparation for reconstructing the German fleet. On the other hand, "it is comprehensible that the Reichstag will not accept a measure of such great financial, economic and political importance without having it thoroughly examined from every point of view." Hence the reference of the Bill to the Committee for Commerce and Industry. Owners have not failed to take advantage of the delay in passing the Bill to level various criticisms at its provisions, and Laas confines his remarks to the technical aspects of the case. His principal arguments and opinions are reproduced below.

OBTAINING VESSELS ABROAD.

Imperial liability under the Bill amounts to about £73,500,000, a great part of which will have to be paid out soon after the measure comes into force. Further, much, if not most, of this money will go abroad. Lost vessels are to be replaced either by purchase or by new constructions. Purchases will have to be mainly from abroad; new constructions will be both home and foreign. The attitude assumed in the Bill is that foreign vessels should be bought freely, save for general restrictions as to quality and price, since it is purely a question of increasing the German merchant fleet. Laas, however, thinks that some further restriction should be placed on foreign purchases and foreign orders, and that direct or indirect provision should be made to occupy German shipyards fully and to develop their capacity to a maximum. German mercantile yards have been inundated with Admiralty orders during the war. Materials and workmen are scarce and there will be a flood of repairs, overhauls and conversions to take precedence over new constructions after the war.

On the other hand, foreign yards (particularly those in Scandinavia, Holland, North America and Japan) have been busy building cargo vessels during the war. They have acquired experience whilst making good profits, and they will be able to make quick and cheap deliveries after the war, thus competing severely with German yards.

It is most important for Germany's economic revival that a large cargo tonnage be available as soon as possible after the war, but it is questionable whether temporary advantage in this respect should be purchased at the cost of permanent detriment to the German shipbuilding industry such as would be occasioned by spending £50,000,000 or so in foreign yards. This is quite apart from the effect of such expenditure in further depreciating the rate of exchange. Shipping and shipbuilding are most intimately interwoven in their prosperity and interests. Productive yards are no less essential than money to the reconstruction of German shipping, and Laas contends that statutory measures should be taken to ensure that German yards will be able to compete with foreign yards in the rapid production of cheap vessels directly after the war.

CAPACITY OF GERMAN MERCHANT YARDS.

The Professor disposes of the delicate question as to what will be the total war loss of German merchant shipping, by saying that this depends on the duration of the war and on the extent to which commandeered vessels can be regained under the peace treaty. He concludes (wisely enough!) that it is well to reckon on high losses in order to be prepared for all emergencies. Assuming that 3,000,000 tons of German merchant shipping has to be replaced, and that the whole of the work were done in German yards, the latter would have to build 500,000 tons per annum for six years or 300,000 tons for 10 years over and above their normal construction and repair work. During the two years before the war, German yards increased their annual production to 350,000 tons, so that the capacity of the yards would have to be doubled in order to replace lost tonnage

by German construction alone within the comparatively long period of 10 years. At first, owners will hardly make their normal demand on top of the replacement demand, also naval requirements should be much below the normal level of pre-war years, and the construction of luxurious passenger vessels must give place for a time to the construction of cargo vessels. On the other hand, there will be a great deal of repair work and many conversions during the first months of peace, and for some time thereafter marine casualties are likely to be heavier than usual owing to drifting mines and inexperienced crews. Also, simple cargo vessels cannot be built very efficiently or economically in yards laid out for heavy war vessels or large liners; and such yards are, in any case, likely to be occupied with partly finished war orders on the conclusion of peace.

Rapid reconstruction of the German merchant fleet necessitates the construction of even more than 500,000 tons per annum of new vessels, and is entirely beyond the present productive capacity of German yards, even if they be given over entirely to the work. There are only two alternatives—either to place orders abroad or to increase promptly and very materially the productive capacity of German yards. Laas considers that the latter alternative is the one which alone will secure the necessary tonnage, maintain national credit, and ensure the revival of German merchant shipping. A shipyard for building cargo vessels is comparatively cheap, but its construction takes time. Money must be spent in the right place and at the right time, and the right way to rebuild the German merchant fleet is to attend first to the yards and then to owners.

Private enterprise alone has neither the resources nor the guarantees needed to justify and to execute wholesale extension of yards purely for building cargo vessels. A State scheme of support for shipyards is no less necessary than one for owners, and Imperial expenditure in this direction will be recovered quickly by cheapened construction of replacement vessels and by more rapid reconstruction of the merchant fleet.

PROPOSED ASSISTANCE TO YARDS.

The general measures by which it is proposed that the State should help German shipyards are subsidies to cover the excess above normal cost of extensions, &c.; supplies of material and labour for constructing the new works; and statutory guarantees for full occupation of the new and extended yards after the war. It is considered that the engine and boiler shops of existing yards and special works, already existing inland, should be able to provide engines and boilers for all replacement vessels. It is only necessary to lay down new slipways and shipbuilding shops and equipment. In order to cover the present abnormal cost of even such restricted equipment, grants should be made up to half the amount expended on plant for building cargo vessels. Grants should be graduated according to the proportion of the yard devoted exclusively to building cargo vessels, and repayment of grants should be deferred and based on a percentage of net profits. Ultimate over-production is not to be feared until very considerable additions have been made to existing yards, for Germany was far from building all her own vessels and carrying all her own cargoes before the war and that is the *post-bellum* ideal of some of her publicists.

OTHER SUGGESTIONS.

Prof. Laas suggests that owners would have more confidence in the Government scheme, and would be able to make their plans to better advantage if a schedule were attached to the Bill showing the precise basis on which is to be determined the "peace value" of lost vessels. The present schedule shows what indemnity is to be granted for band instruments and barber's appliances, but fails to tell owners what they may expect to receive as a preliminary grant! This omission is the less explicable because the Government announces that the data in question is already at its disposal.

The original draft of the Reconstruction Bill provides for grants during a period of nine years after the date of peace, maximum benefit being obtainable only during the first three years. Laas considers that the best interests of German shipping would be served

by increasing productive capacity promptly in the shipyards and reducing the period of owners' eligibility for grants from nine years to six years.

Industrial interests in South Germany do not find recognition of their capabilities and claims to consideration in the original Bill, but, as Laas points out, if only the principal work of reconstruction is guaranteed to German yards, inland industrial interests will be safe, especially if they invest liberally in shipyards, as several important industrial concerns have done already.

In a revised draft of the Bill, Laas suggests that up to £17,100,000 be expended for reconstruction purposes during the financial year 1917-18; up to £2,450,000 of this amount being devoted to extending shipyards and shipbuilding facilities.

MERCHANT SEAMEN'S LEAGUE AND BOYCOTT OF GERMANY.

At Cardiff on Sunday two very large meetings were held under the auspices of the Merchant Seamen's League. This organisation was founded at the Albert Hall, London, last September, and, briefly, the objects it has set out to accomplish are, to boycott the Germans and German goods at the termination of hostilities, and, in recognition of the heroic services rendered to the Empire by the seamen of the British Mercantile Marine during the war, "to assist them in maintaining their benevolent institutions for the aged and infirm." Commander Sir Edward Nicholl, the president of the League, took the chair. The principal speaker was Lord Beresford.

The chairman said that between 8,000 and 9,000 men of the British Mercantile Marine had lost their lives through the action of German submarines, the Germans must be punished for what they had done, and the Merchant Seamen's League had designed a method for accomplishing this object. The following resolutions were unanimously adopted:—(1) That they will refuse to employ any Germans in any capacity on land or sea; (2) and, further, they pledge themselves not to purchase, or use, or cause to be used, any goods of German origin; (3) It is further agreed that all master mariners refuse to salute or recognise the German flag on the high seas or in ports abroad. This boycott to continue for two years after peace terms have been arranged, and one month's boycott added for every crime committed by the Germans on land or sea that is contrary to the Hague Convention or International Law of the Sea, committed after the passing of this resolution. Should, however, the German people decide to establish full Parliamentary control over their Kaiser and Government, a mitigation of the boycott may take place with the approval of the members of the League; (4) That this meeting pledges itself to use all legitimate means to further the objects of the Merchant Seamen's League.

U.S. MINE-LAYER "GENERAL WILLIAM M. GRAHAM."

The mine-layer *General William M. Graham* was launched on August 29 at the yard of the New York Shipbuilding Corporation, Camden, N.J. This event is the first fruits of the long series of launchings called for in the extensive shipbuilding programme of the Federal Government, which calls for the construction of large numbers of ships, not only for the Navy, but for the Army and the Emergency Fleet Corporation as well. The keel of the *General William M. Graham* was laid immediately after the declaration of war, in April, and at time of launching the ship was 82 per cent. completed. At the present time the New York Shipbuilding Corporation has under construction for the Government the battleship *Idaho*, which was launched last June (photographs of which appeared in our issue of August 2); 24 merchant ships for the Emergency Fleet Corporation; and 10 torpedo-boat destroyers for the Navy. The photograph reproduced on page 369 shows the *General William M. Graham* just entering the water; the battleship *Idaho* can be seen on the right beneath the crane.

MAINTENANCE OF THE BRITISH MERCANTILE MARINE.—VI.

The question of maintaining old markets and developing new ones was discussed in the Report of the Joint Committee of the Chamber of Shipping and the Liverpool Steam Ship Owners' Association. In this, the concluding article of the series, we give the Committee's conclusions on these points, and also the question of the control of port labour and miscellaneous matters in relation thereto.

MAINTENANCE OF OLD MARKETS.

The war has weakened, and in some cases destroyed, our hold in the overseas markets of the world. Many British ocean services within the Empire between this and foreign countries, and between foreign countries, which had only been established at great cost and by years of work, have had to be abandoned, as the ships employed have been needed to meet war demands. Foreign shipowners have seized the chance, and employed the enormous profits they have derived from the war to take over these abandoned carrying trades, and thereby they have acquired for their own nations a great hold on the trade carried in the ships.

The sacrifice has been made in the national service and without any compensation being allowed to the British shipowners. The State should be prepared to render all such assistance as may be necessary to re-establish the position of the British shipowners in these ocean services at the earliest possible moment after the war, and unless this be done the whole of our trade in these markets, and not merely the sea carriage of the commodities constituting that trade, will be endangered.

DEVELOPMENT OF NEW MARKETS.

The State should be prepared to render financial assistance where necessary for the opening up of new markets. As a general rule this assistance can best be given by providing transport facilities which will be at the disposal of the trade as a whole, but in exceptional cases it may be necessary for the State to render direct assistance in regard to particular trades. Other nations have acquired important new markets by means of State-aided steamship lines, and until the trade with a port can be made self-supporting, the State should be prepared, if the future prospects warrant, to give direct financial aid to the British steamship lines that are needed to open up such a market in the interests of British commerce.

PASSENGER TRAFFIC.

In developing international transport services, regard must be had to the important part played by the passenger trade in the building up and maintenance of regular and efficient cargo services. Each nation must be left free to impose such conditions as it may deem necessary to prevent the introduction or spread of disease, but subject to such regulations the freedom of the citizen of every State to travel through and sail from the port of any other nation should be recognised and respected. Our national policy should aim at securing in the ports of all nations equal rights for ships under all flags to carry both passengers and cargo under equal conditions.

In the past, Germany and Austria have, under the pretence of guarding against the introduction of disease, established an elaborate control over the movement through their countries of emigrants of other nationalities; and they have placed this control in the hands of their private shipowners, who have used it for the purpose of not only building up their own passenger business, but also of destroying or limiting the business of the steamship lines of the United Kingdom and the Allies from German and other ports. In great measure the passenger business which has been so built up has been the foundation of the development of their cargo services and of their foreign trade. To guard against such practices, international arrangement is necessary to supervise the nature of the restrictions imposed by any one nation on the citizens of other nations, so that they may be limited to the enforcement of efficient safeguards against the introduction of disease, but at the same time recognise and respect the freedom of the passenger to travel freely by land and sea on the route he selects.

DEVELOPMENT OF PORTS.

The State should be prepared to assist in the development of the ports of the United Kingdom which are of national importance. The waste of war, and the increased value of money, may make it difficult for the local port authorities to obtain the capital required for such development, although the security they can offer for the capital may be undoubted. In such event the State should be prepared to provide the capital required at the lowest possible cost, so that necessary maintenance and development may not be delayed, or the port charges unnecessarily increased.

PORT LABOUR.

The casual character of much of the work in the ports raises questions of difficulty. In great measure it is inevitable, for the flow of traffic fluctuates.

The busy times in the ports of the United Kingdom are from October to March, during which months the greater part of the harvests of the world are moved. In addition to this seasonal fluctuation the amount of traffic in each port varies very considerably from day to day as all vessels are subject to detention at loading ports and on the voyage, whilst in the regular course of some of the Continental trades they arrive only on certain days of the week. To meet these conditions each port endeavours to secure and retain the services of sufficient men to enable it to deal with its maximum traffic, and therefore, of necessity, to gather together more men than it can regularly employ. To attract this labour the rates paid to the men whilst actually working are substantially above those paid for similar work where the employment is more continuous, although the average earnings of the week may be lower.

The freedom resulting from the casual nature of the employment, the right to work or not from day to day as the individual man may feel inclined, the right to pick and choose between the work undertaken, and the high rate of pay received for all work actually done, attract to the ports many men who will not accept regular employment at fixed weekly rates of pay. They prefer casual work at casual rates, to regular work at fixed weekly rates of pay. Attempts have been made in some ports to secure under the casual system a better average rate of weekly earnings, by placing limits on the total number of men who may be employed in relation to the total amount of work to be done. But if the limit covers the maximum traffic, there cannot be sufficient work for all over the year, whilst if it covers only the minimum traffic the port will be blocked at its busy times. In other ports attempts have been made to limit the number of casual workers by giving regular employment and regular

pay to the number of men for whom there is always work; but the extension of this practice has been opposed by the men, partly because they do not wish to surrender the freedom they have under the casual system, and still more because they are wishful to secure *equality of opportunity* for all workers in the port.

The Committee consider that regular work and regular pay can only be guaranteed in regard to the minimum traffic of the port, and that the surplus must be provided for by casual labour. As on the farms, a great deal of the work in the ports is seasonal, for it is through the ports that the harvests of the world are gathered in and distributed. It further appears that the only effective way of reducing casual employment will be by increasing the number of workers to whom regular pay is given in exchange for constant work. In doing

this it will be impossible to give equal opportunities to all, for there cannot be regular employment for all. The choice is between getting a great part of the work undertaken by regular hands, at regular rates of pay, and leaving only the balance to be done by the casual workers, or leaving the whole of the work to be done by casual labour. It is doubtful if it will be possible to limit the total number of workers and at the same time to leave each individual free to work or not from day to day as he pleases.

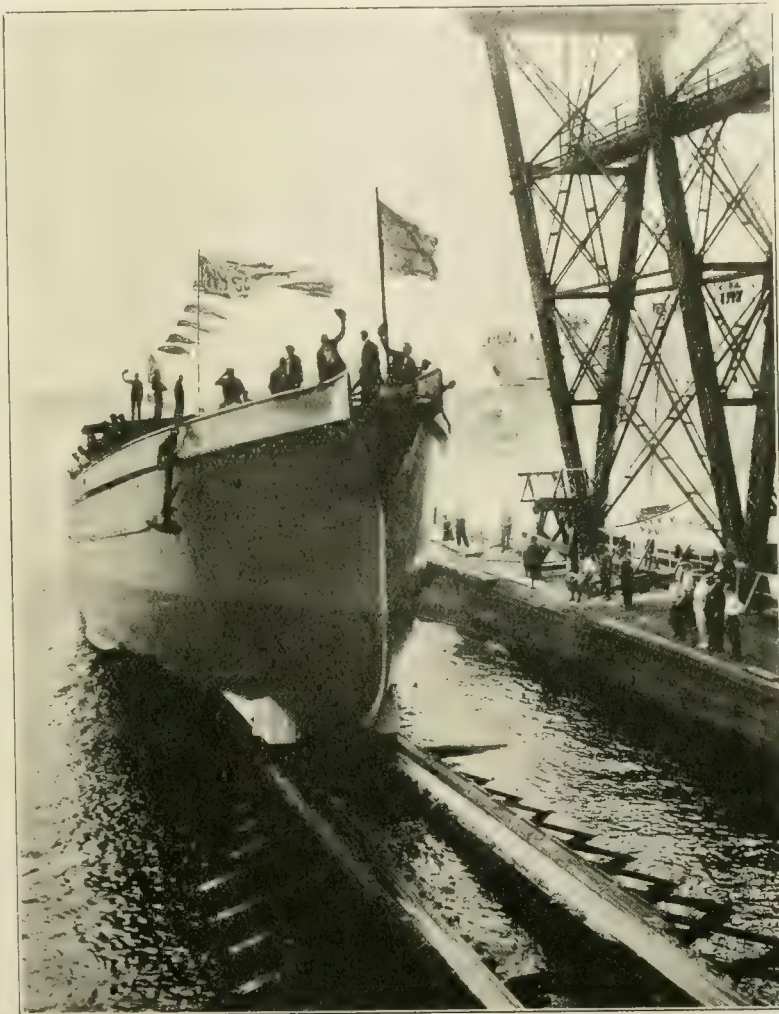
THE RIGHT TO WORK.

The overseas trade of the country has again and again been seriously affected by labour disputes, and the bitterness and extent of those disputes have been aggravated by the lack of protection given by the State to the willing workers, and the failure of the men to honour engagements entered into, on their behalf, by their elected leaders.

One may recognise the right of the men, if they so wish, to bargain collectively, provided they are prepared to carry out the engage-

ments entered into on their behalf by their chosen representatives, but if they will not honour such engagements collective bargains become a farce and the shipowners can be no longer parties to them.

The passing of the Trades Disputes Act, 1906, contributed, in the Committee's opinion, in no small degree to the difficulties experienced in recent years, not only by reason of the actual alterations made by that Act in the law, but more especially by reason of the widespread belief that under it no form of picketing could be prevented. In the Committee's opinion the Trades Disputes Act, 1906, should be at once amended, inasmuch as it facilitates and encourages in time of strike the practice of criminal intimidation, and hampers the magistrates and police in taking steps necessary for the protection of willing workers.



Launch of U.S. Mine-Layer "General William M. Graham"
(see page 368).

RAILWAYS.

The railway facilities of the ports should be improved. To this end it should be made possible to acquire, without delay and on equitable terms, the land needed for the improvement of the railway communications with the ports of national importance.

Some advantages have resulted from the centralised control of the railway systems during the war, but on the other hand the elimination of competition between the railway companies has led to curtailment of many transport facilities.

CANAL SERVICES.

An exhaustive examination into the then position of the Canals and Inland Navigations of the United Kingdom was made by a Royal Commission which reported in 1909. The Commission made definite recommendations as to the facilities, improvements, and extensions which were desirable in order to complete a system of through communications by water between centres of commerce, industry, or agriculture, and between such centres and the sea. The Report, upon which nothing has been done, appears to call for action. The improvements recommended would find immediate employment on work of great national importance for prisoners of war, and, after peace is declared, it is work which would absorb all unemployed unskilled labour offering.

SUBSTITUTES FOR STEEL IN SHIPS.

The present scarcity of steel has resulted in the introduction of substitutes. Quite a good deal has been heard recently with regard to ships built of wood and of ferro-concrete. In the ordinary way, some years before the war, wood was definitely dropped in favour of steel, except in a few places where the supply of timber was so plentiful as to make the building of wooden ships commercially economical. The whole question really hinges upon the relation between the weight, cost, and the strength of various materials. Wood, of course, has much less strength per ton weight than steel. In addition, there is a total loss of strength at the butts of wood planking. Nevertheless, where timber is cheap wooden ships are practicable.

Ferro-concrete is a material that has certain advantages over steel, but there are also disadvantages. The reinforcement in concrete can be arranged in such a way that there is no loss of strength at the joints. This is not the case with a steel ship, the plates and bars of which have to be pierced by rivet holes, causing a definite loss of strength, with the result that the whole of the material has to be made stronger than it would be if it were not pierced in this way. In addition, there is the scrap material in a steel ship which cannot be avoided. This scrap is practically negligible in a concrete ship. In a concrete ship, moreover, the continuity of strength can be maintained even where transverse and longitudinal members cross one another, whereas the loss of strength in a steel ship in this way is considerable in one or the other. The steel in a concrete ship can also be distributed more economically than in a steel one, and of course the concrete can take at least some of the compressive stresses. In spite of this, however, a ship can be built entirely of steel of a much less weight than of ferro-concrete.

Improvements in shipbuilding would undoubtedly be brought about if some substitute for steel could be found which would render it possible to obtain the same strength as in the steel ship with less weight. At present, no such substitute is in view, and until it appears, it is fairly certain that ships will—as soon as the supply of steel again becomes normal—continue to be built of steel.

DANISH SHIP MORTGAGE INSURANCE BANK.—The Danish Mortgage Insurance Bank, founded in Copenhagen last year with a share capital of £276,000, proposes now to establish a ship mortgage insurance bank in the same city.

THE POWERING OF FULL CARGO SHIPS.

In the course of developing some ready method of arriving at the approximate indicated horse-powers necessary to drive full cargo ships at their appropriate speeds the writer was led to the method of presentation here given.

It was found, on plotting the Admiralty constants obtained on trial by many cargo boats of various sizes, that by doing so with displacements on a logarithmic base these constants showed a very definite trend. It may be argued that it is possible to have vessels widely divergent in proportion, form, and fullness, of the same actual displacement, which factors would nullify any attempt to employ displacement as the basis of comparison. A little consideration will show that, in this type of ship, displacement is the fundamental factor in the dimensions and also in the power necessary for a given speed.

INFLUENCE OF DISPLACEMENT ON DIMENSIONS.

A cargo ship of 1,000 tons displacement would be given the following approximate dimensions: Length, 150 ft.; breadth, 27 ft.; and draft, 12 ft. One of 5,000 tons would be about 290 ft. in length, 41 ft. in beam, and 19½ ft. in draft, whilst one of 10,000 tons would be approximately 370 ft. long, 51 ft. broad, and 24 ft. in draft. These dimensions might vary to some extent, but in the present day tendency of having broad ships they would not be far from those adopted.

INFLUENCE OF DIMENSIONS ON RESULTS.

Suppose, however, that in the case of the ship of 10,000 tons displacement the dimensions were 400 ft. by 47 ft. by 24½ ft. instead of those given above, and that a speed of 11 knots is desired on trial. Working out the effective horse-powers from the curves of frictional and residuary resistance given in Tayler's "Speed and Power of Ships," it is found that the 370 ft. ship would require 1,050 e.h.p. whilst the 400 ft. ship would require only 950 e.h.p. Assuming 50 per cent. propulsive efficiency, this gives 2,100 i.h.p. against 1,900 i.h.p. in the longer vessel. It is admitted that this is a considerable difference, but no more than has been given by sister ships on trial. (See comparison of sister ship performances at 6,400 tons displacement in Fig. 1.) For 10,000 tons displacement at 11 knots the power as given by Fig. 2 is 2,200, giving an Admiralty constant of 280, which is by no means a bad performance.

Several reasons may be assigned for the steady fall in constant with decrease in displacement. In the first place, decrease in length causes an increase in the $\frac{V}{\sqrt{L}}$ value for any definite speed, that is,

that the 10 knots speed for a 10,000 ton ship is relatively very much slower than the same speed for one of 1,000 tons. The latter vessel would therefore be working higher up on the hump of the resistance curve, and accordingly give a lower Admiralty constant. Secondly, the $\frac{\text{length}}{\text{breadth}}$ proportion decreases steadily with decrease in displacement, and broader vessels are relatively of greater resistance than those narrower in proportion. A vessel of 1,000 tons displacement would have approximately 5½ beams to length, of 5,000 tons 7 beams to length, and of 10,000 tons 7¼ to 7½ beams to length. Thirdly, with decrease in displacement, and therefore decrease in length, the frictional resistance per unit of surface increases; and fourthly, decrease in propulsive efficiency accompanies decrease in size of ship. These factors unite in causing the decided drop in the Admiralty constant curve.

INFLUENCE OF BLOCK COEFFICIENT ON RESULT.

On Fig. 2 curves are drawn of the appropriate block coefficient to adopt for certain definite speeds with given displacements. These have been judged from the performances of the many vessels considered. It may be observed that the highest block coefficient suggested is .77, which fullness seems to be that most desirable from considerations of sea performances. In calm water, vessels of fuller forms may give almost as good performances, but it has

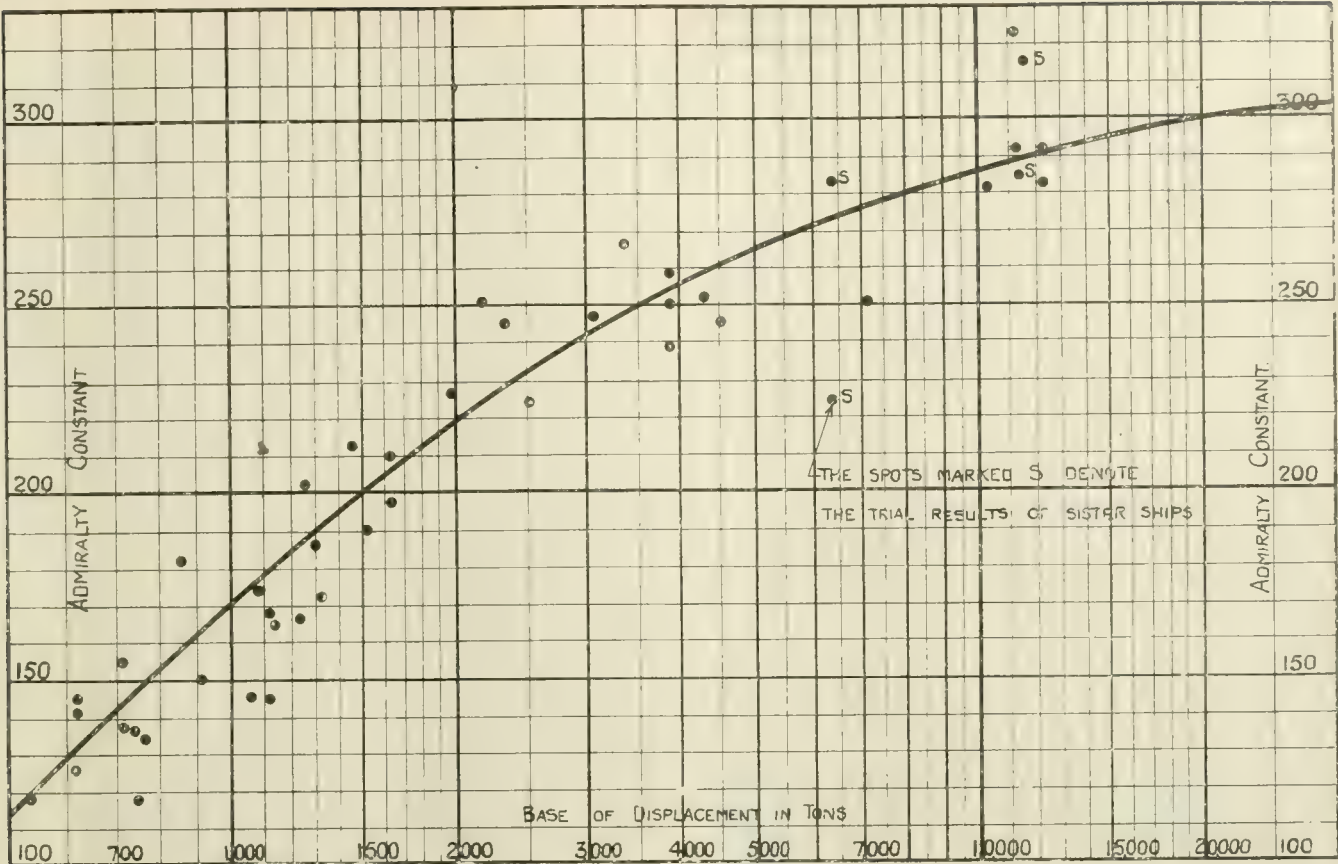


Fig. 1.—Admiralty Constants obtained on Trials of fully laden Cargo Ships.

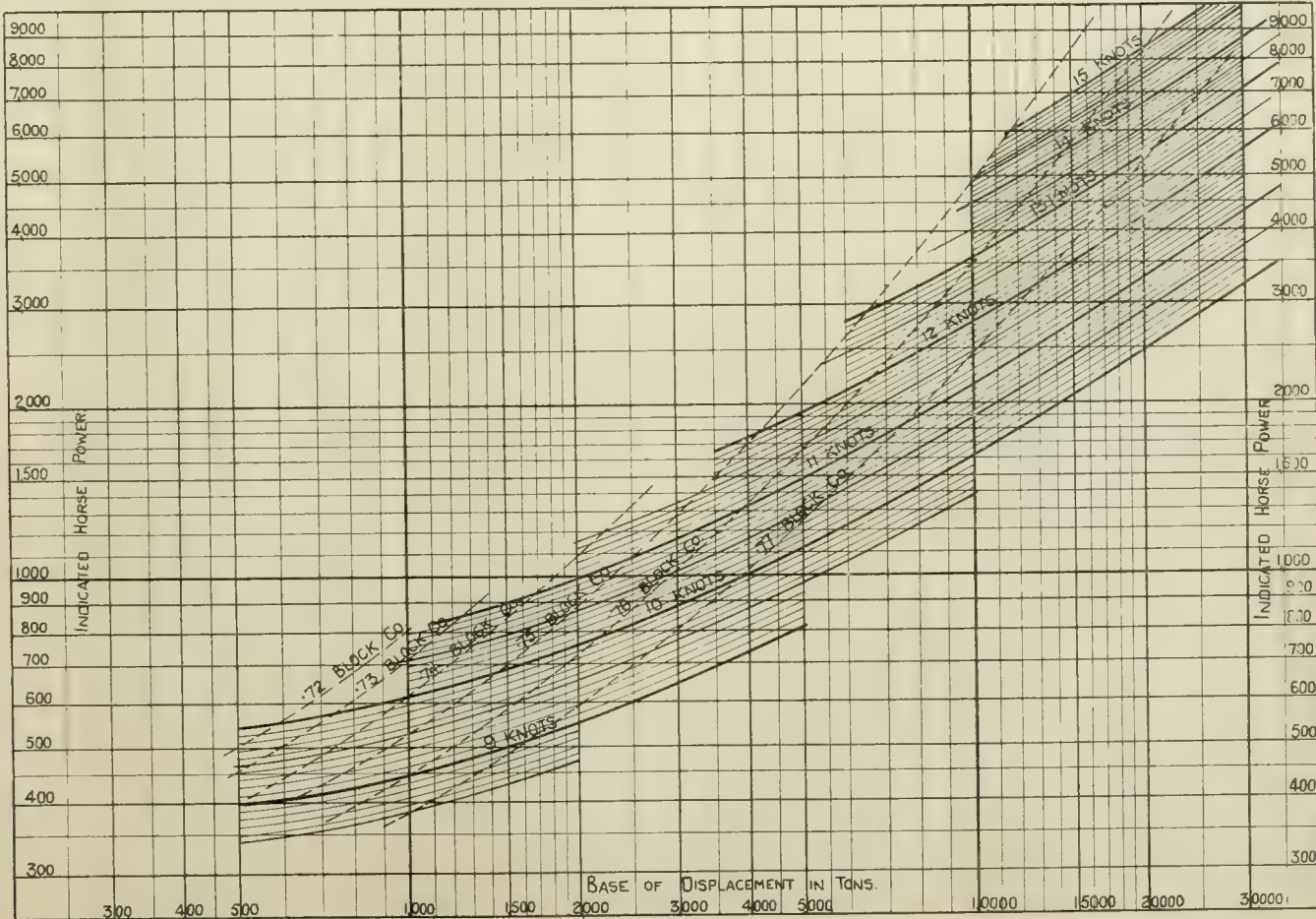


Fig. 2.—Curves of approximate Indicated Horse-power for Trial Conditions of fully laden Cargo Ships.

been shown by experience that vessels beyond this fullness are much more adversely affected by rough weather than are ships with block coefficients not exceeding this figure.

ACCURACY OF CURVES.

It is not claimed that Fig. 2 will give with absolute accuracy the horse-power required for any special case, but the broad average results of a large number of vessels are here given, and afford a ready means of arriving at the necessary horse-power to give a certain speed to a full ship of given displacement. Another use of the curves is to give an indication of the probable speed which will be obtained when the engine power and displacement are known. For example, at the present time some optimists are looking for a speed of about 14 knots from cargo ships of about 12,000 tons displacement with 3,000 i.h.p. Fig. 2 indicates that a speed of about 12 knots can be obtained, and that the higher speed demands much greater power.

CHAMBERS OF COMMERCE AND SHIPOWNERS.

REPLY TO THE CHAMBER OF SHIPPING AND LIVERPOOL STEAM SHIP OWNERS' REPORT.

The Executive Council of the Association of the Chambers of Commerce of the United Kingdom have sent a reply to the report of the Joint Committee of the Chamber of Shipping of the United Kingdom and the Liverpool Steam Ship Owners' Association on the maintenance of the British mercantile marine.

The Council, the report states, would have felt more satisfied if the report had contained formal denial of the truth of the following allegations:—

(a) That British shipowners before the war entered into understandings or rings or conferences with foreign shipping concerns, some of which were in receipt of advantages from their respective Governments in the shape of subsidies, rebates, bounties, &c., the objective and effect of such subsidy being to place British goods, as compared with foreign goods, at a disadvantage if sent in British ships to our dominions and protectorates.

(b) That in some cases more advantageous rates were granted by British shipowners to shippers of goods from Continental ports than to shippers of similar goods from United Kingdom ports to the same destination.

(c) That certain British ships before the war carried German and other foreign goods from Continental ports at cheaper rates than those for which they would have carried similar goods of British origin in the same ships from British ports.

The Council suggests that British shipowners should realise more strongly that ocean routes are the frontiers and lines of communication of an island Power like Britain, and are of opinion that (a) those routes should not be allowed to be the subject of arrangements with citizens of any foreign country unless such arrangements have first been submitted to and approved by the British Government; (b) that even partial surrender to foreign persons of trade routes by arrangement or by sale or by transfer of ownership or control of vessels without reference to the public interest which might conflict with private money-making may mean not only the loss of ships essential in peace as well as in war, but also to trade outlets and communications for British productions; (c) that the regulation and reservation by the State of the coastwise trade and shipping of an island Power are as much an integral national right and necessity as the preservation of its frontiers and internal communication.

The Council are of the opinion that shipowners and the Association of Chambers of Commerce should join in requesting Parliament to make it a statutory and penalisable offence:—

(1) For any British shipowner to join with foreigners in any arrangement calculated to check British ships carrying British goods from the United Kingdom to any British Imperial port.

(2) For any British shipowner to join with foreigners in any arrangement as to the control of British coastwise trade and shipping.

(3) For any British shipowners to carry any foreign goods from a foreign port at a cheaper rate than that charged for similar British goods carried in a British steamship from a British port of an equivalent distance.

WATER-TIGHT DOORS.*

The introduction of water-tight doors for ships was a necessity which arose when water-tight bulkheads came to be fitted, in order to give ready access to compartments which contained the machinery, or other compartments to which it was deemed desirable to get access periodically for inspection, and yet have efficient means readily available to isolate these in emergency. The necessity demanded the invention of a system which could be readily available when the moment arrived to close the doors. Several plans have been invented for the purpose, and yet there appears room for more—hence that which is now submitted for discussion.

The object of this system of water-tight doors is to allow of easy communication from one compartment to another, also to provide means of escape from one compartment to an adjoining compartment without allowing the watertightness of the bulkhead to be impaired. An opening is cut in the bulkhead, and to this opening is fitted, in a water-tight and air-tight manner, a chamber or cell of rectangular or other suitable shape; this cell is formed by two rigid cast steel frames of the required dimensions, to enable one or more men to move about in the cell. This chamber has two openings, one at each side, through which men can pass, and each of these openings is fitted with a sliding door (EE') adapted to slide in ways to and from the seat, so that, when open, there is a clear entrance into the chamber, or, when closed, a wedge-shaped edge on the door enters between correspondingly shaped faces or into a recess in the seat or sill of the opening, thus forming a water-tight joint to prevent leakage and render the door self-packing. In the diagrammatic sketch reproduced these doors are operated hydraulically, but they could also be worked pneumatically, electrically or otherwise, in such a way that under no circumstances whatever can both be opened at the same time, one door remaining open when the other is closed and *vice-versa*, or both remaining closed.

As the gear for operating both doors is similar, in the following description we shall refer to one door only, except where the gear of one door interferes with that of the other. A convenient method of operating the doors is by means of a rack or racks on each door operated by pinions keyed on a shaft. In the case of hydraulic power being used, a hydraulic cylinder A is provided fitted with a piston whose piston rod has a rack B gearing with a pinion C keyed in a shaft which has another pinion D gearing with a rack on the door E, so that by admitting pressure to one side of the piston in the cylinder and putting the other side to exhaust, the door is opened or shut according to the direction in which the pressure acts. In the sketch, pressure to open the door should be admitted at the top end of the cylinder.

The controlling valve for the hydraulic cylinders can be operated from the inside of the chamber or cell by means of a pair of hand levers, or from the outside of the chamber by similar levers, the said levers being adapted to control ordinarily the respective doors. The working lever T is of the bell-crank type, and is connected to the lower end of the spindle of the controlling valve F. The doors are so arranged that one must be completely closed before the other can be opened. To fulfil this condition, certain appliances, which vary according to the gear used to operate the doors, are provided; in the case of hydraulically operated doors, an intercepting valve O in connection with each door is provided, this valve being worked by the door in such a manner that when one door is opened fluid pressure to open the other door cannot reach the hydraulic cylinder. The intercepting valve O may, if desired, be fitted in the top of the chamber, its spindle being connected to a bell-crank lever N, one of whose arms is operated by a cam M fitted on the top of the door in the rear, and so arranged that only when the door is perfectly closed the cam M would move the spindle of the valve O to allow a free passage between the controlling valve and the

* Abstract of paper read before the Institute of Marine Engineers on September 11, by Eng.-Lieut. I. Toro, Chilean Navy.

opening end of the cylinder actuating the other door. The chamber of the intercepting valve O is connected respectively by pipes with the hydraulic cylinder that operates the other door, and with a port in the chest of the controlling valve that operates the said hydraulic cylinder, so that the pressure fluid on being admitted by the controlling valves passes through the pipes by way of the

be opened, the act of opening will release its intercepting valve spindle, so that such intercepting valve closes by the pressure of the spring P and cuts off any admission of pressure fluid into the hydraulic cylinder of the other door. It will be seen, therefore, that if one door be open and the other closed, the operation of the lever to open the closed door would have no effect, because the inter-

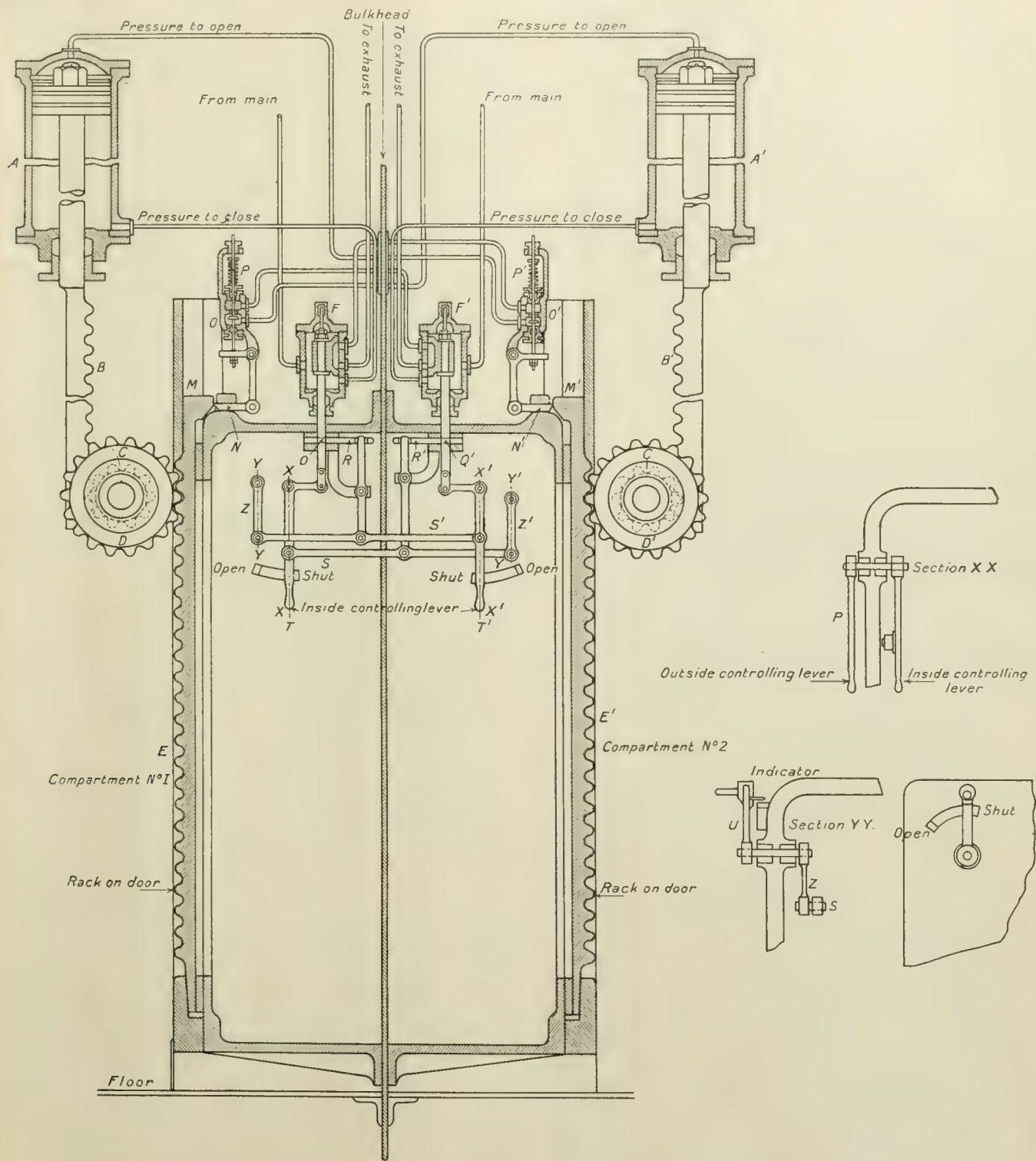


Diagram showing Arrangement of Hydraulic Mechanism for Water-tight Door.

intercepting valve of one door to the hydraulic cylinder of the other door. The chambers of the intercepting valve of the opposite door are similarly connected, so that the opening of one door keeps the other closed, and *vice-versa*. If, therefore, one of the doors

cepting valve would be closed and pressure fluid could not reach the hydraulic cylinder to open that door. When both doors are closed, then either lever can be operated to open one door or the other. To prevent both doors being opened simultaneously, there are certain

locking devices provided which consist of locking bolts RR' coupled either directly or through the medium of rocking arms and levers SS' with the opposite hand levers, such locking bolts being adapted to lock the valve spindles under certain conditions, that is to say, when both doors are closed, the locking bolts are in the "off" position, but when one or other of the controlling levers is operated, the locking bolt connected therewith is shot forward into slot Q or Q' cut in the valve spindle of the other controlling valve so as to lock it and prevent it being operated. It will be seen that the locking bolts provide also a device which prevents in any case one door being opened while the other is open, as the slots QQ' cut in the spindles are only exactly in front of the said bolts RR' when the levers of the controlling valves are in the shut position, that is to say, when the doors are closed. When one door is open the slot of the controlling valve spindle is moved from its original position, the passage being intercepted by the solid part of the spindle, so that the lever of the other door cannot be moved from the closed or shut position, as the locking bolt connected to it has its travel barred by the spindle of the other controlling valve. Should one or both of the intercepting valves OO' not work as intended this mechanical device provides a further means of preventing both doors being opened at the same time. Moreover, if desired, the use of the intercepting valves could be dispensed with and only the locking bolts used. Thus one door must always remain shut, and in no case could there be a through passage from one compartment on one side of the bulkhead, or partition to the other side thereof.

The working of this system of doors in order to get from one compartment to another is as follows:—The door at one side of the chamber or cell is opened first by means of the outside controlling lever to allow the man or men to gain admittance to the cell. This door is then closed by one of the controlling levers inside the cell. When this is properly closed, but not before, the opposite door can be opened by the other controlling lever, enabling the men to obtain admission into the other compartment. In no case can there be a through passage from one compartment to the other, as one door must always remain shut. In ordinary circumstances each door may be controlled from its respective side, but as it may happen that the panic-stricken men rushing from a compartment where there is danger to the adjoining compartment might easily forget to shut the door of the safe compartment, thus preventing other people from escaping, an emergency arrangement is applied which permits of the controlling of the doors from the opposite compartment; with reference to the sketch, the lever S, besides being connected to the rocking lever that works the locking bolt R, is connected also to an arm Z pivoted on a shaft which is fitted in a water-tight and air-tight manner through the side of the chamber; in the outside end this shaft has keyed to it an arm U, fitted with a handle and also with an index which works between the positions *open* and *shut*. In this manner the possibility of leaving men locked in a compartment is therefore prevented, as by means of the arm U the controlling valve of the opposite door can be worked, and therefore this door can be closed to allow the opening of the other door. If necessary, a device may be applied to give a signal of the completion of the operation of passing from one compartment to the other.

The controlling valves could be of the ordinary type, but the inter-locking device might be applied to some of the patented valves that can be operated from the bridge. There is, however, no need of this control from the bridge, as under no circumstances whatever is there a through passage from one compartment to another; in fact, it may be said, as far as the efficiency of a water-tight sliding door permits, that the bulkhead is intact.

As mentioned before, the sketch given is only a diagrammatic one, and the positions of the different parts may be altered to suit circumstances; for instance, in actual practice it will be more convenient to place the controlling valves in the sides of

the chamber; in such a case the outside controlling lever would be of the bell crank type, and would be connected to the spindle of the valve; the inside controlling lever would also be of the bell crank type, and it would be connected to a cylindrical bar containing the slot for the locking bolts; this slot would be cut in such a position that it would be just in front of the locking bolts only when the controlling valve was in the shut position. The chamber or cell is provided with means for ventilation, and also with lighting arrangements. This system of doors could also be applied when using electrical or mechanical power, but naturally the gear would be somewhat different in construction though similar in principle. The invention may also be applied as an air-lock for submarine vessels and for diving purposes, &c.

In connection with the use of doors in the bulkheads of warships, the naval authorities do not allow their application, although they recognise the difficulties under which the engineering force has to work to obtain full efficiency from machinery placed in isolated places, not always run by careful hands, but the naval authorities consider that where there is a door in a bulkhead, there is a hole. All this may be applied to single doors, as in the moment of danger a plank of wood, a shovel or any other article might be left in the door, which would prevent it from closing, but with this system such a thing is impossible, as there must always be one door closed, and therefore the bulkhead is always watertight. In merchant ships doors are allowed in bulkheads; with this system of double doors which are fool-proof, the safety of such ships would be considerably increased, as, for reasons already stated, the bulkheads would always be water-tight, notwithstanding that there would be easy means of communication between the different compartments. The author thinks that this system of doors is fool-proof and able to fulfil the demand of always maintaining the water-tightness of the compartment.

ITALIAN SHIPPING ACTIVITY.

There has recently been great activity amongst Italian ship-owners. The Navigazione Generale Italiana, which is the largest liner-owner in Italy, has raised its capital from £2,380,000 to £4,760,000 by the issue of £793,000 in new shares and by increasing the nominal value of old shares from £11 18s. to £19 16s. The increased capital thus exceeds that of the Società Transoceanica, which was founded a short time ago in Naples, with a capital of £3,960,000. The Italia Company recently increased its capital from £596,000 to £2,380,000; the Siculo Americana has increased from £396,000 to £991,000; and the Lloyd Sabaudo from £446,000 to £793,000. Earlier new foundations are the Navigazione Lloyd Meridionale, Palermo (£178,500); the Soc. Italiana di Navigazione Jonio, Tarent (£139,000); the Soc. Italiana di Navigazione Mercantile Stella d'Italia, Mailand (£119,000); and the Soc. Italiana di Navigazione Lucania, Naples (£39,600).

Smaller capital increases have been undertaken by various firms, and altogether the capital invested in shipping has increased by more than £10,000,000. Though largely due to the generally prevalent policy of preparing for after-the-war competition, this capital increase is partly due to realisation of large profits which could not be distributed directly, owing to the law of 1916 which limited dividends to 8 per cent., save in the case of companies which yielded higher returns before the war.

Last year the Alta Italia proposed to go into voluntary liquidation, but this means of conveying war profits to shareholders was forestalled by the Government prohibition of September, 1916; the company is, therefore, still in existence with a share capital of £710,000, which is likely soon to be increased. Italian companies should emerge from the war in a very strong financial position.

GENERAL NEWS SECTION.

PERSONAL.

Mr. John Hitchins Bain, of Bain, Sons & Co., merchants and ship-owners, of Portreath, Redruth, left estate valued at £34,870.

Captain Davidson, of South Shields, has been re-elected president of the British Shipmasters' and Officers' Protection Society, whose headquarters are in Sunderland.

Mr. Oliver M. Evans died recently at Swansea. Deceased was a partner in the Cardiff and Swansea shipowning firm of Phillips, Evans & Co., and part proprietor of the Birchgrove Colliery.

Another well-known Clyde man is giving his services to the Admiralty for the duration of the war. Mr. Noel E. Peck, of Barclay, Curle & Co., Ltd., Whiteinch, Glasgow, has taken up a highly important position in the Department of the Deputy - Controller for Auxiliary Shipbuilding, where there are already a considerable number of men from the west of Scotland.

The death took place on Monday, at his residence, Hazelhurst, Sunderland, at the age of 71, of Alderman William Sanderson, of the Taylor and Sanderson Steamship Company. He retired from active participation in the business some years ago, but retained an interest in the firm to the last. Alderman Sanderson played a very useful part in the public life of Wearside and was an ex-mayor of the borough.



Mr. Noel E. Peck.
Appointed to the Department of the
Deputy-Controller for Auxiliary
Shipbuilding.

Mr. J. C. Gould, shipowner, Cardiff, has given 1,000 guineas for the purpose of endowing a bed at King Edward VII's Hospital, Cardiff. Mr. Gould has also contributed the sum of £500 to the hospital.

At a meeting of the Merchant Seamen's League, held at Cardiff, on Sunday, Mr. J. Havelock Wilson announced that Commander Sir Edward Nicholl, the president, had given a donation of £1,000 to the League.

Mr. J. Hole, who for 48 years was secretary of W. Doxford & Sons, Ltd., shipbuilders, Pallion, Sunderland, has retired from that position, and has been presented with a silver tray as a token of appreciation.

The Shipping Controller has appointed Mr. W. K. Findlay and Mr. H. R. Greenhalgh (directors of Lever Bros., and of the Brompton Steamship Co., Ltd.) to be members of the West African Ship-owners' Committee.

Alderman W. F. Whitwell, who is to be mayor of Thornaby for the fifth successive year, is a son of the late Alderman W. Whitwell, twice mayor of Thornaby, and, like his father, is a prominent Tees-side ironmaster.

The Hon. H. R. Brand, R.N., has been elected a trustee of the Newhaven Harbour and Ouse Lower Navigation Board in succession to his father, the late Hon. A. G. Brand. Lord Cottesloe has been re-elected to the same body.

Sir Thomas Dunlop, Bart., was entertained to dinner on October 12 by the Glasgow Consular Corps (of which he is a member), and presented with an illuminated address in recognition of his services to the city as Lord Provost.

Commander Sir Edward Nicholl, who has been acting as chief examining officer in the Bristol Channel since August, 1914, is resigning that appointment in order to take up an important position offered him in London by the Government.

Mr. Andrew Weir, of Andrew Weir & Co., shipowners, and Surveyor-General of Supply on the Army Council, has been appointed by Dr. Addison, Minister of Reconstruction, a member of the committee which is to report upon questions connected with the supplies of raw materials which will be required for restoring and developing trade after the war.

Mr. A. H. Milne, C.M.G., Secretary of the Liverpool Chamber of Commerce, has resigned his post owing to considerations of health. At a meeting of the Council held on October 9 a resolution was passed expressing regret and also appreciation of Mr. Milne's services during the 26 years he has been connected with the Chamber. Mr. J. L. McCarthy has been appointed acting secretary.

The Marine Department of the Mersey Docks and Harbour Board last week presented Mr. J. Cooper, on his retirement after 44 years' service with the Board, and 25 years as master of the Landing Stages, with a beautiful illuminated address, a gold hunter watch and curb chain, a purse of money and a pipe, while Mrs. Cooper was also presented with a gold chain. The presentations were made by Commander F. W. Mace.

Lieutenant C. S. Bonner, an old Conway Cadet, has been awarded the Victoria Cross for meritorious services in connection with anti-submarine work. Lieutenant Bonner was decorated only in July last with the D.S.C., for signal service, also in that branch of naval warfare. He served his apprenticeship with George Milner & Co., and some few years ago sailed as second officer in one of the *Castle* boats of J. Chambers & Co., Liverpool.

The death has taken place at Sydney, New South Wales, of Mr. George Skelton Yuill, formerly general manager of the Orient Line in Australia. He founded the firm of G. S. Yuill & Co., Ltd., and was connected with large mercantile concerns in Australia. A few years ago he gave £4,000 to Aberdeen University for encouraging the practical application of chemistry to the arts, manufactures and industries of Great Britain. He was a native of Peterhead, and 70 years of age.

Mr. Hay Falconer, of Tyne Dock, Master of one of the West Hartlepool Steam Navigation Company's steamers, has been presented by the French Government with the First Class Silver Médaille de Sauvetage, with diploma, together with a bronze medal, in acknowledgment of the self-sacrifice displayed by him when giving help to a French vessel and towing her 680 miles to a French port under difficult circumstances. The salvaged vessel was a large Transatlantic cargo liner and fully laden.

It is reported that Mr. H. W. Curchin, for the past 10 years Chief Assistant to Mr. J. W. Isherwood, has been appointed Chief Executive Shipbuilding Officer for the Commonwealth Government. Mr. Curchin has gained, in connection with the construction of vessels

on the Isherwood system, an extensive knowledge of shipyard conditions, both in Great Britain and in foreign countries. This experience should prove very valuable in the planning and equipment of the State shipyards which, it is believed, the Commonwealth Government intend to build.

Mr. Joseph Russell, of Seafield, Ardrossan, and The Knowe, Port Glasgow, shipbuilder, who died on June 3, has left personal property of the value of £220,494. He made the following charitable bequests: £1,000 to the Foreign Mission of the United Free Church; £500 each to the Livingstonia Mission of the United Free Church, the National Lifeboat Institution, and the Baptist Missionary Society; £250 each to the Greenock Infirmary and the Broadstone Jubilee Hospital, Port Glasgow; and £100 each to St. John's United Free Church, Ardrossan, the Hamilton United Free Church, Port Glasgow, and the Baptist Chapel, Lewisham Road, Greenwich.

Sir Charles Stamp Milburn, Bart., head of the firm of William Milburn & Co., shipowners and merchants, of London and Newcastle, whose death occurred on July 16 last, left estate valued at £183,917, with net personalty £178,157. He bequeathed £3,000 to the Royal Victoria Infirmary, Newcastle; £250 to the Missions to Seamen, Tyne Branch; £5,000 to the Royal National Lifeboat Institution for a lifeboat on the Northumberland coast; £500 to Dr. Barnardo's Homes; £1,000 to the Poor Children's Holiday Association; £1,000 to the Hospital for Sick Children, Newcastle; £1,000 to the Workshops for the Adult Blind, Newcastle; £500 to the Alnwick Infirmary; £1,000 to the Northumberland Aged Mine Workers' Homes Association for cottages at Hirst and Seaton; £1,000 to the Durham Aged Mine Workers' Homes Association; £500 to the Tyne Mariners' Benevolent Association, and £500 to the Royal Alfred Aged Merchant Seamen's Institution.

The death has occurred at Bournemouth, after a short illness, of Mr. David G. Pinkney, founder and head of the firm of David G. Pinkney & Co., shipowners and shipbrokers, 9, Bury Court, London, E.C. Mr. Pinkney was 61 years of age and a native of Sunderland. When quite a young man Mr. Pinkney came to London and joined in the shipbroking business of Pinkney, Sons & Clare, which afterwards became Pinkneys, Clare & Nye. In 1893 he left that firm and founded the present business of David G. Pinkney & Co., being associated in its conduct with his son, Lieutenant D. Ward Pinkney and Mr. G. V. Craggs. He was widely experienced in shipping matters, and a familiar figure at the Baltic Mercantile and Shipping Exchange, of which he had been a member since 1879, and was universally respected. Mr. Pinkney took an active interest in public matters outside the business of shipping, and was prominently identified with the British Empire League, being a member of its Executive Council.

FROM OUR CORRESPONDENTS.

CLYDE DISTRICT.

(FROM OUR OWN CORRESPONDENT.)

Clyde Riveters' Rates.—The Minister of Labour has intimated that the question of the rates of pay for riveters in the Clyde district engaged on merchant shipbuilding and on mine-sweepers is being forthwith referred for arbitration to the Chief Industrial Commissioner, Sir George Askwith.

Clyde-built Vessels on the Yangtse.—A good deal has been made of the fact that a new steamer has recently accomplished the voyage from Ichang to Chungking in four days and that the passage of the famous rapids of the Yangtse has been successfully made by this vessel. It may be pointed out, however, that in June, 1914, the steamer *Shu-hun*, built by Yarrow & Co., Glasgow, completed the dangerous voyage over the rapids and whirlpools of 400 miles of river between Ichang and Chungking. The *Shu-hun*, which is a steamer of 200 ft. by 30 ft., did the trip in 5½ days, against a strong freshet, the water in the gorges during the run up rising from 13 to 35 ft. As far back as 1905, the British gunboat *Widgeon*, which was also constructed by Yarrow & Co., made the same voyage in six days.

Standard Wages for Seamen.—The proposals made by the Ministry of Shipping with regard to the introduction of a standard

wage for seamen and firemen has aroused a good deal of opposition in shipping circles on the Clyde. It is pointed out that the national rate of wages, if adopted, is hardly likely to be less than the present rate which, at most ports, is about £11 per month for seamen and £11 10s. for firemen, compared with a rate of about £5 10s. for both classes prior to the war. Clyde owners believe that the fixing of high standard rates for seamen and firemen will not end the matter. There are also the shore staffs to be considered, while the Ministry has promised to deal with the pay of officers and engineers. What, it is asked, is to happen after the war? Will the seamen accept any reduction of their wages when the risks for which they claim an advance have disappeared? If not, the shipowner will be compelled to charge very high freights to cover the increased working expenses, and the public will have to pay higher prices for all commodities imported. Clyde owners would therefore prefer that the Shipping Controller would leave the wages question to be settled between them and their men.

Port Glasgow Harbour Scheme.—Another stage has been reached in connection with the proposal which has been put forward by Mr. James Lithgow and Mr. Harry Lithgow (of Russell & Co., shipbuilders), that they should acquire a controlling interest in the harbours of Port Glasgow. At a recent meeting of Port Glasgow Harbour Trust it was stated that Messrs. Lithgow's proposal is to the effect that they take over the whole of the existing "A" and "B" stock, for which they are prepared to pay £28,000. It may be necessary, it is stated, to purchase also a considerable amount of stock still unissued, and as the whole debt of the Trust would thus be borne by the purchasers, they suggest that the constitution of the Trust should be altered so that the stockholders would have a preponderating representation on the Harbour Board. They are also prepared to promote and bear the whole cost of a Provisional Order promoted in the name of the Trust. If the scheme is accepted, Messrs. Lithgow state that it is their intention to fill up the West Harbour and hand it over to the town as a public park.

SCOTTISH EAST-COAST DISTRICT.

(FROM OUR OWN CORRESPONDENT.)

Aberdeen Cranemen's Wages.—The Aberdeen Harbour Board have been unable to meet the demands of the cranemen employed at the port, with regard to an advance in wages. The Board have therefore requested that the matter should be settled by arbitration, and they have intimated this view to the Chief Industrial Commissioner's Department. The men are for most part members of the National Union of Dock Labourers, and they are being supported in their claim by that organisation.

New Shipyard at Aberdeen.—John Lewis & Sons, Ltd., who recently established a shipyard at Aberdeen, in addition to their engineering works, have now completed their first vessel. This steamer, which has been named the *Wyndhurst*, has been built to the order of T. Pallister & Co., Newcastle. Engines have been supplied by another Aberdeen firm, J. Abernethy & Co. The *Wyndhurst*, which is of about 570 tons gross, is intended for the carriage of bulk cargoes, her machinery being placed aft.

Engineering Bursaries for Dundee.—The Council of the University College, Dundee, have received intimation that a bequest of £2,000 has been made for the provision of bursaries for students in engineering and naval construction connected with the college. The bequest, which was made by the late Mr. John Stewart Duff, of Oakdene, Blairgowrie, is to be applied in giving two or more bursaries in engineering—marine, civil, mechanical or electrical; and two or more bursaries in naval construction or shipbuilding, including the construction of aircraft.

Shipbuilding at Dundee.—It was intimated at a meeting of Dundee Harbour Board held last week that no further steps are likely to be taken meantime in connection with the proposal to establish a shipyard at the port for the construction of ferro-concrete vessels. The Trustees, it was stated, had done everything in their power to encourage the movement, but the limited ground at the disposal of the Trustees had rendered the scheme abortive. A representative of the company which had been negotiating in the matter had inspected the plans of the ground which it was proposed should be acquired, but on account of the capital cost for dredging and piling which would be necessary, the ground was found to be unsuitable for the purpose.

Development of Forth Ports.—United action is being taken by practically all the authorities of the smaller ports on the Firth

of Forth with a view to developing the shipping trade of these places after the war. The schemes which have been mooted at some of the conferences which have been held are still somewhat vague and indefinite, but this is perhaps all that can be expected at the present stage of the movement. The question, however, is being taken up with a good deal of zeal by the various authorities concerned. At a meeting of Boness Town Council last week it was stated in the course of a discussion on the subject that the development of Boness must lie in the reclamation of its foreshores. The large tracts of mud-flats, it was said, could be reclaimed and made excellent sites for public works, such as shipbuilding yards, steel works and kindred trades. The breadth and depth of the water opposite Boness made it an ideal place for launching ships. A report on the scheme as applicable to Boness was adopted by the Council.

NORTH EAST-COAST DISTRICT.

(FROM OUR OWN CORRESPONDENT.)

New Shipyard at Pallion.—In the past week the contractors have made a start with the laying out of the new shipbuilding yard at Pallion, Sunderland, for the Egis Shipbuilding Company. The site of the yard covers an area of about twenty acres, and will provide accommodation for four or five berths, capable of taking ships up to 500 ft. in length. The berths will occupy the centre of the ground, and the necessary shops and sheds and other buildings will be erected on either side. It promises to be one of the most up-to-date shipbuilding yards on the North-East Coast, and when in full swing it is expected to give employment to about 3,000 hands. The undertaking will be ready for building, it is expected, by about October of next year.

Labour Transfer on the Wear.—The Labour Transfer Committee on the Wear, which is concerned with the shipbuilding, ship-repairing and engineering trades, has held its first meeting under the presidency of Mr. James Marr, and as a result of its deliberations a notice was posted in the works intimating that workmen are now free to leave for other war work, after giving their employer a week's notice unless a longer period was provided by their existing contract of service. It was pointed out that if large numbers of men left their work suddenly, and a big movement of workpeople took place, there was danger that the output of urgent war work might be dislocated, and the men at the Front might suffer. In these circumstances, the Committee has appealed to all workmen not to change their employment without definite and substantial grounds.

Training of Apprentices.—A deputation has been appointed by the Newcastle Education Committee to meet the Minister of Education regarding a scheme recently drawn up by the Committee in conjunction with the North-East Coast Institution of Engineers and Shipbuilders for the training of apprentices on the North-East Coast. In the past the evening technical classes have not been regarded as satisfactory, so far as the pupils in the shipbuilding and engineering trades are concerned, for the reason that it was scarcely to be expected that the boys could do their best in night tuition after having been engaged at the works from six o'clock in the morning until five o'clock in the afternoon. Under the new scheme alluded to, the boys are to be allowed time off during the day to attend the classes without monetary loss to themselves. It is confidently believed that this concession by the employers will bear fruit in the years to come by appreciably raising the educational standard of the apprentices.

Tyne River Dues.—The trade of the Tyne has, like that of all other important rivers, been adversely affected by the war, and this has meant a decreased revenue to the Port Authority, while at the same time greatly increased calls have had to be met in respect of higher wages from every grade of labour. A few months ago the Tyne Improvement Commission obtained the sanction of the Board of Trade to increase the river dues by 30½ per cent., and now application is to be made for power to raise the dues up to 50 per cent. At the last meeting of the Commission, when this application was confirmed, Mr. Arthur Scholefield, the chairman of the Finance Committee, said nobody regretted the putting forward of such a proposition more than did the Finance Committee, but he pointed out that they had to safeguard the interest of the Commission as far as possible. When the Commission asked the Board of Trade some time ago to sanction an advance in the dues it was felt then that a 50 per cent. increase would very soon be needed to meet the present position.

Transfer of Shipyard Labour. The Tyne Committee under the Admiralty Shipyard Transfer of Labour scheme is now established in Bolbee Hall, Newcastle, and is looking forward to doing useful work in the direction of making the most of the available supplies of labour on the river, and to see that there is a minimum of dislocation in industry now that leaving certificates are no longer in operation. The committee is composed of seven representatives of the leading shipbuilding and engineering firms on the Tyne, and a similar number of the trade unions concerned. Mr. A. C. Ross, of Hawthorn, Leslie & Co., Ltd., is the first chairman, and other employers supporting him are Colonel R. Sexton White, Mr. Laurence Smith, Mr. Summers Hunter, Mr. F. E. W. Collier, Mr. R. Wallis, and Mr. Boyd. The secretary for the men's side is Mr. Isaac D. Hebron, who is very well known as the secretary of the Tyne and Wear Committee of the Federation of Engineering and Shipbuilding Trades. The chief aim of the new committee is to secure greater mobility of labour in order that men can be transferred from one employer to another as needs arise, under what is called priority work, this being work, of course, that is most pressing in the national interest.

Palmers' Shipbuilding Company.—Although there can be no dividend for the shareholders in Palmers' Shipbuilding and Iron Company, Ltd., until the present prior lien debentures of £250,000 are cleared off, the prospects of the company in the immediate future are evidently satisfactory. This view was gained from the very exhaustive speech made by the chairman of the company, Mr. G. Muir Ritchie, at the annual meeting of shareholders in Newcastle last week. The money that was raised in debentures is being applied to the modernisation of the steel works and blast-furnaces at Jarrow, a very important part of the company's very large undertaking, and it is believed that the improvements and extensions now being made will be of real value to the concern in the very near future. This important transformation in plant, now steadily in progress, has had to be carried through in war time, and this, of course, has been a disadvantage in many ways, but once it is done and the immense potentialities of the Hebburn shipyard are fully exploited, it is easily conceivable that the production of Palmers' must be very much greater than ever it has been in the 52 years of its existence. Mr. Ritchie suggested to the shareholders that if they would read between the lines in the balance-sheet they would see that a radical improvement was being steadily effected in the financial position of the company. Instead of a large debit balance they had a credit balance, and the capital account was increasing, and from this point of view the position of the company was much better than it was five or six years ago.

MERSEY DISTRICT.

(FROM OUR OWN CORRESPONDENT.)

Port Wages.—The difficulty experienced of late of getting Merseyside seamen to sign on at the old rate of wages has been overcome by the setting up of an interim port wage of £11 per month for seamen and trimmers, and £11 10s. per month for firemen pending the fixing of a national wage for seamen of all grades by the Mercantile Marine Conciliation Committee of the Board of Trade within the specified period of four weeks. It is also understood that the pay of officers and engineers will also be reviewed by the Conciliation Committee.

Transport Workers' Wages.—A crowded meeting of Liverpool transport workers which embraces almost every class of dock-side labourer, held on Sunday, endorsed the national programme of the Transport Workers' Federation which demands the stamping out of non-unionism, calls for the establishment of all war-increased payments into permanent wages, urges the complete abolition of systematic overtime and week-end labour, the abolition of underpaid Asiatic labour, and further determined to take national action should the occasion call for it to deal with any and all phases of the national programme.

Social Functions.—Complimentary dinners have been to the fore this last week, one which took place on Friday being to congratulate Mr. James Sexton and Mr. George Milligan, officials of the Dockers' Union, and Mr. W. H. Jones, secretary of the Mersey Carters' Union, on their appointments, one as a Commander, and the two latter as members of the Order of the British Empire; and the other to Private Ratcliffe, the Liverpool docker V.C., who was entertained on Saturday by the Executive of the National Union of Dock Labourers and Riverside Workers. At the former the

principal guests included the Lord Mayor of Liverpool, Lord Leverhulme, and Sir Alfred Booth, Bart., while present at the latter were the Earl of Derby (Secretary for War), Sir Helenus R. Robertson (chairman of the Mersey Docks and Harbour Board) and Sir Alfred Booth, Bart. At both functions reference was made to labour problems of the past and the good work that has been accomplished in adjusting differences and disputes by the Joint Labour Board, of which Sir Alfred Booth is the chairman. The latter gentleman in a reference to the financial position of the country, observed that the income tax was in a very rotten condition at present. He said it was intended, of course, to be a tax on the individual, but owing to the way in which the income tax had grown up, it came to be very largely a tax on industry. That called for careful investigation now that the country realised that the tax had got to be, and to remain, at a high level. The promised Government Commission to inquire into the matter should be set up now, instead of waiting until the war was over.

SOUTH WALES DISTRICT.

(FROM OUR OWN CORRESPONDENT.)

Seaman's Compensation Claim.—At Barry County Court, Henry Ross, a boatswain, sued the Shipping Federation in connection with a claim for compensation. For Ross it was stated that early this year he met with an accident on a ship, and the Shipping Federation had since paid him compensation at the rate of £1 per week. In August an agreement was entered into that £30 be paid in settlement of the claim, and that Ross be found work. The Shipping Federation had not, it was stated, redeemed their promise to find work, and on behalf of Ross opposition was made to the agreement. His Honour decided that the agreement be not recorded, and directed that Ross be paid 25s. per week compensation for the present, but advised him to find some other employment.

Utilisation of Home-grown Timber Supplies.—The continued restriction of the use of tonnage for importing pitwood for the collieries necessitates the purchase and felling of further home-grown supplies. A Cardiff firm has purchased a quantity of timber, comprising eight plantations and coppices of larch and firwood. The deal also includes timber in various coppices and hedgerows, extending over 1,300 acres, in Shapwick and Ashcott, Somerset, containing 4,000 ash, oak and elm trees, &c. The timber will be used as pitwood for the South Wales collieries. This is the second important deal in timber made in Somerset by the firm (F. R. Howe & Co.) this year. In June last they bought a considerable quantity of Scotch fir pitwood from the Marquis of Bath, the felling of which is near completion.

Newport Harbour Board.—At a meeting of the Newport Harbour Board an intimation was received from the Admiralty stating that the Board's claim for dues from His Majesty's ships from August, 1914, had been accepted by the Dock and Harbour Dues Committee, who recommended payment of £2,000 in full settlement of all claims up to March 31. The clerk stated that the report setting out the claims of Newport as a shipbuilding centre and as a port well adapted to comply with the findings of the Dominion Royal Commission had been considered, and it was decided to print the same and request the local Members of Parliament to support Newport's claims in the proper quarter. At the Newport Town Council meeting the proposal to expend £1,194 for the purpose of strengthening a certain portion of the river bank was adopted.

Pooling of Coal Export Business.—At a meeting of coal exporters to Italy, held on the Cardiff Exchange, the question of pooling the orders for Italy, other than those executed through the Italian State Railways Commission, was considered. It is stated that the quantity being shipped through the Commission is in excess of the arranged monthly quantity of 225,000 tons. The exporters consider that a more equitable arrangement would be the pooling of this business, as well as that which now ordinarily passes through local private firms. The principle of pooling has, in the past, been opposed by local exporters, but it is considered that the circumstances in this case are exceptional. A proposal which is generally favoured is that there should be a redistribution of the exporter's commission and brokerage fees on the basis of the business done by each exporting firm during the four years ending 1916. A further meeting is to be held at a later date to discuss the question.

Anglo-Persian Oil Company and Swansea.—For some considerable time past negotiations have been proceeding between the Swansea Harbour Trustees and the Anglo-Persian Oil Company. At the monthly meeting of the Harbour Trust the chairman, Sir Griffith Thomas, moved the adoption of the agreements which have been concluded between the company and the Trust for leasing land at the King's Dock Extension for wharfage purposes. The land in question embraces an area of 44,444 square yards, with certain provided pipe lines. The term of the lease is for 99 years from June, 1917, the company practically guaranteeing that the rate payable shall amount annually to £10,000. The Harbour Trust will supply the energy. Sir Griffith said that the erection of the works would, it was anticipated, be followed by a good many others. Swansea in the future would take a very leading part in the importation and exportation of petroleum. The company were guaranteeing the Trust a rent of £10,000 per year, but the income might really be about £40,000 per annum. The sealing of the agreements was agreed to. The Cuba Stores was let to the South Dock Engineering Company for a period of five years at an annual rent of £150.

It may be stated, in connection with the project, that the Anglo-Persian Oil Company propose to construct refining works at Skewen, about a mile from the dock, to which the crude oil will be pumped through a pipeline and then returned to the wharf for shipment. When necessary, boats will be bunkered with oil in the Mumbles roads by means of barges, and when this is done the latter can enter and leave the King's Dock at any state of the tide, day or night.

THE FREIGHT MARKETS.

(FROM OUR OWN CORRESPONDENTS.)

London.—Chartering business on the Baltic Exchange continues to move in restricted limits, but a very firm tone prevails in all sections of the market. This firmness is especially noticeable in the Eastern and North American sections, in which higher rates are current and still higher figures seem probable. From the River Plate homeward values are still nominal at 145s. from the up-river ports and 5s. less for down-river loading. Tonnage is in great request in net form of charter from the ports of the North American Atlantic seaboard. To the United Kingdom the figure has been advanced to 240s. from the Range on net charter, while to the French Bay ports 250s. can be obtained, and to West Italy 360s. For Gulf loading an additional 30s. would be conceded on these figures. The rate for heavy grain remains at 30s. to the United Kingdom and for oats 25s. Nitrate business could be done at 185s. to this country and 200s. to Italy. Virginia coal charterers are anxious to obtain tonnage for coal cargoes to the Plate and other destinations, and values quoted are 125s. to the Plate, \$32 Rio de Janeiro and 71s. Chile. The East continues in immediate need of carriers. Both Karachi and Bombay offer 250s. to the United Kingdom, the former on scale basis and the latter on deadweight, but no doubt an advance on this figure could be obtained. Bombay to the Mediterranean on deadweight is worth at least 400s. The Madras coast offers 500s. for kernels to Marseilles, and Calcutta would pay 550s. on jute basis to Santos. The rice ports are bidding very high figures, Burma being prepared to pay 600s. to France and Saigon at least 575s. to the same destination. In the Mediterranean section of the market values keep steady from the ore and phosphate ports. Huelva to the Mersey is worth 45s.; Bilbao to Boulogne, 50 fr.; Bougie to the Clyde, 50s.; Tunis to the same destination, 65s.; Sfax to the east coast United Kingdom, 75s.; and Huelva to Hull, 60s. for pyrites. Big business is indicated by fixtures at 22s. 6d., Bayonne to Bristol Channel. The time-charter market offers profitable business, 60s. being obtainable by neutral tonnage of suitable dimensions for six to twelve months' trading.

Glasgow.—Quiet and uninteresting conditions have ruled throughout the week in the local freight market, which has been without feature since our last report. Controlled tonnage commanded full rates in the outward markets, and for neutral countries quotations, though nominal, were very firm. The only fixture of importance noted in the outward trade was from Glasgow to Gibraltar, 3,900 tons, 100s. In the homeward markets very firm rates ruled for the small amount of tonnage available. In some cases quotations were only nominal owing to the difficulty in securing boats.

Newcastle-on-Tyne. There has not been a great deal of business stirring in the local freight market this week. The somewhat chaotic position created by the Coal Controller's announcement, that he intended to allow an increase in the scheduled coal prices to meet the wage advance given nationally to miners, tended to check inquiries and to lessen the immediate demand for cargo space, shippers and consumers alike preferring to wait until they found out exactly what the new prices were to be. At the time of writing, the position is fairly well cleared up and chartering is being undertaken as quickly as the very limited amount of tonnage on offer permits—which is not saying a great deal, for there are very few "free" vessels available. Quite a large proportion of the tonnage fixed during the week has been for Sweden. Five steamers, aggregating over 10,000 tons, having been engaged for Stockholm discharge, three at 200 kr., one at 205 kr. and one at 207½ kr. For Gothenburg a 2,000-ton vessel has been taken up at 190 kr., the same rate as ruled a week ago. Two fixtures, each of a 8,000-ton vessel, have been arranged for Gibraltar, one at 100s. and the other at 110s. Coasting business has been done on the basis of 20s. to London. Although French coal and coke orders are as numerous as ever at firm scheduled rates, very few vessels have been on offer. So far as other directions are concerned, Bilbao is quoted at 150s., Lisbon at 90s., Oporto at 105s., Barcelona at 220s. and Port Said at 165s.

Liverpool.—Outward freights on this market are affected by the tonnage restrictions to neutral countries, but to Allied destinations there continues an active demand at extreme rates. Time chartering is slow, as suitable boats are scarce. Rates, however, keep firm and neutrals could fix at attractive figures. Homeward business quiet, but rates generally are firm. Eastern markets are still unable to get free tonnages, though Saigon offers 600s. to France. Values from India to United Kingdom are about 275s., scale, from Karachi, and 300s. d.w. from Bombay. North America continues an active market, especially for net charters, and business is possible to the United Kingdom at 230s.; to North France, 250s.; and to Italy, 350s. to 360s. Grain rules dull around 30s. from Range ports to the United Kingdom. Nitrate ports indicate 185s. to the United Kingdom, and River Plate keeps nominal on basis of 145s. up-river and 140s. lower ports.

Cardiff and Swansea.—Conditions on the outward coal freight market continue of modest dimensions. The tonnage position has not been good, and the stormy weather which has prevailed has accentuated the shortage. The inquiry for tonnage shows no signs of diminishing, both for Allied ports and neutral destinations. Although there has been a good inquiry for boats for Spanish ports, no business has been reported, mainly owing to the very high rates demanded. The only business to record is for France: Havre at 45s. 9d.; Caen, 46s. 6d.; Trouville, 46s. 6d.; Rouen, twice at 48s. 9d. and once at 50s. 3d., also 74s. 3d. for coke; Nantes, 61s. 6d.; Chantenay, 61s. 6d.; and Bordeaux, 69s. All these fixtures are for neutral steamers. On the Swansea market the position shows no change. Quiet conditions have prevailed in all departments, and tonnage has been sparingly offered. Quotations have ruled firm for all directions on the basis of recent business. The only transactions reported were three fixtures for neutral vessels for Rouen at 47s. 3d., 48s. 9d. and 50s. 3d.

Hull.—The market has a firm tone with a strong general demand for tonnage. In the North French section—which is at present by far the most active branch of chartering—a fair trade is passing, at limitation rates, both in steamers and in small sailing vessels. In regard to the latter, small ones of 60 to 100 and 200 tons are being chartered at 120s., which represents a gross freightage more than the value of the vessel before the war. The West Italian branch, though there is plenty of inquiry, keeps exceptionally quiet owing to the difficulty of securing tonnage of any description. The Scandinavian market is also firm in tone, but neglected.

THE COAL MARKETS.

(FROM OUR OWN CORRESPONDENT.)

The all-round condition of the coal markets is satisfactory with the exception, possibly, of South Wales, where the tone is weak. In fact, the position in South Wales is in rather distinct contrast, so far as the export trade is concerned, to that on the North-east Coast, which has been enjoying a period of comparative activity. From the ports of Northumberland and Durham during the last week or two a considerable amount of fuel has been dispatched to overseas destinations, and the demand continues strong.

Recently there have been many inquiries for coke, especially for the Scandinavian countries, and as a result the coke market has firmed up considerably, prices being very firmly held. If the transport facilities were greater, there is no doubt that a considerable business would be done.

On the South Wales markets, on the other hand, business is very sluggish, from a variety of causes, and in Scotland also there has been no change for the better. Thus, taken all round, the export trade is not all that could be desired.

So far as the bunker coal trade is concerned, there has been very little movement in any direction. Even the better arrival of shipping at the North-east Coast coal exporting ports has failed to introduce much animation into the bunker coal department, and Durham bunkers are in plentiful supply at easy prices. Bests are worth from 24s. to 25s., and ordinaries can be obtained at something less than 24s., though specials for export still continue rather scarce and command the top price of 30s.

The bunker coal trade in South Wales is sluggish, and there is much more fuel of this description in stock than is needed to meet the rather modest demands of the moment. Best bunkers are quoted at 23s., and ordinaries at 21s. 6d., but there is little disposition to do business at these figures.

The feature of the North-east Coast coal markets is the strength of the coke market, which has been given an impetus as the result of inquiries from Scandinavia, and especially Norway, which requires a large amount of this sort of fuel during the coming winter. A good deal of business has already been transacted at satisfactory prices, which are very firm with an upward tendency. If tonnage were in better supply there is no doubt that the amount of business done could easily be largely increased, but as it is merchants have to be careful as to their commitments.

The steam coal market is also tolerably satisfactory, especially for best qualities of large coal, though smalls are not so favourably placed and there is more of this class of fuel on hand than is necessary to meet the somewhat limited requirements of buyers. The inland demand is still very considerable, and helps to balance the falling off in export business.

Prices are approximately for best Blyth large steams 30s., and smalls, 18s. 6d. to 20s. 6d.; Tyne primes, large, 29s. 6d., and smalls 18s. 6d. to 20s. 6d.; second steams, 25s. 6d. to 30s. for large, and 18s. 6d. to 20s. 6d. for smalls; unscreened steams, 24s. to 25s.; North Northumberland steams, 28s., and smalls 20s.; smithies, 25s. to 30s.; nuts, 30s.; Durham gas coals, 23s. 6d. to 30s.; coking coals, 17s. to 25s.; house coal, 20s. to 21s.; best bunkers, 24s. to 25s.; ordinaries, 24s.; and specials, 30s.; foundry coke, 42s. 6d.; blast furnace coke, 28s.; and gas-house coke, 32s. 6d. to 35s.

Trade on the South Wales coal markets is almost dormant. Not only is the demand distinctly quiet, but transport facilities, both sea and land, are so limited that considerable difficulty is being experienced in moving coal which is not required to discharge contract obligations. The amount of new business recorded is almost nil, and the collieries have been forced in many cases to resort to stoppages and work short time in order to avoid the accumulation of stocks, which are already unduly large. As a further bar to business there is the prospect of schedule prices being revised at an early date, and operators are rather holding off until the new schedule has been issued. House coal and patent fuel is being disposed of fairly well.

Approximate values are for Best Admiralty large coal, 33s.; seconds, 30s. 9d. to 31s. 6d.; ordinaries, 30s.; dries, 28s. 6d. to 30s.; bunkers, 21s. 6d. to 23s.; smalls, 18s. 6d. to 22s. 6d.; best large black veins, 30s.; western valleys, 29s.; eastern valleys, 28s. to 29s.; nuts, 28s. 6d. to 30s.; house coal, 30s. to 33s.; No. 3 Rhonddas, large, 30s. 9d., smalls, 26s.; No. 2 Rhonddas, large, 27s., smalls, 20s.; and patent fuel, 30s.

Dull, sluggish conditions continue to prevail in the Scottish coal markets, which have been waiting rather anxiously for the issue of the new schedule of prices by the Coal Controller. The pits are kept going to a very large extent by the inland demand, which is excellent. Export business is as slow as ever, the effect being mostly felt in Fifeshire, where the collieries depend largely on the overseas trade.

Prices are for splints, 28s. to 30s.; Harileys, 29s.; Ells, 26s. 6d. to 28s.; screened navigations, 28s. to 30s., steam coal, 27s. 6d.; unscreened navigations, 23s. 6d. to 25s.; and nuts, 21s. to 23s.

The feature of the Hull coal market is still the difficulty of getting sufficient supplies of fuel to satisfy the strong demand both home and export. The requirements of the authorities are very large, and as in addition a large quantity of coal is needed to satisfy

contract needs both inland and for export very little free coal appears on the market. New business is not discussed as the collieries are quite unable to increase their outputs.

Supplies of coal to the Liverpool coal market have been short, so that all demands have not been satisfied. The shortage is felt especially in hard steam coal, the quantity of fuel coming forward from Derbyshire and Yorkshire being very small. The demand for bunkers is brisk and fairly adequate supplies of this class of fuel are at hand, but house coal is wanted. Nuts are scarce.

The Midland coal trade is without appreciable change. There is still a stronger demand than supply, and though manufacturing and munition works are able to get enough fuel to keep them going the surplus is so small that they are unable to build up stocks. Consequently the demand for coal of all descriptions is insistent and the collieries are kept at full pressure.

On the London coal market operators are beginning to find a difficulty in getting sufficient supplies to meet the needs. Some orders which have been outstanding for quite a long period are still unfulfilled, and the colder weather is bringing home to merchants that they must now build up stocks as rapidly as possible against the coming winter. Unfortunately this is a very difficult matter, especially in regard to house and of the best sort, and the collieries are consequently being hard pressed to execute orders. The amount of coal coming to hand is not sufficient to satisfy all demands and there seems no prospect of an early improvement. Prices are firmly maintained all round.

COMPANY MEETINGS.

Dulcia Steam Shipping Company, Ltd.—The annual meeting was held on September 18. In the absence, through illness, of Mr. J. C. Gould (chairman of directors), the chair was occupied by Mr. W. T. Gould, who, in moving the adoption of the report, said that the accounts of the company for the period ended August 7 last showed that the three steamers of the company had been written down to £87,104, or about £5 10s. per d.w. ton, whereas the vessels, on present valuation, were worth about £230,000, equal to £15 per ton. He pointed out that a profit of £39,000 made on the sale of steamer No. 239 and the premium on the new issue had been deducted from the cost of the vessels, as well as the amount voted for depreciation at the last annual meeting. He then explained how it came about that the accounts showed a debit balance of £3,757, this arising through additional excess profits duty and the new war risk insurance scheme imposed by the Government, together with the inadequate rate of hire on requisitioned ships, as against increased costs all round for stores, provisions, repairs, wages, &c. The calls for war risk insurances had been so heavy since the payment of the last dividend that what had been a profit had now been turned into a loss. On account of the heavy amount of work incurred in connection with the new insurances, &c., the managers had been put to the extra expense of £250, which it was proposed to reimburse.

Mr. Emil Davies (director) seconded the resolution, which was carried.

Palmers' Shipbuilding & Iron Company, Ltd.—The 51st annual general meeting was held at Newcastle on October 10. The chairman (Mr. G. Mure Ritchie), in moving the adoption of the accounts for the year ended June 30, 1916, stated that the capital of the company was the same as the previous year, the only new item being £250,000 prior lien debentures, of which £173,000 had been drawn, and the balance for the steel works extensions and improvements would be probably drawn during the current year. The assets in land and buildings amounted to £1,062,683, and included shares in Palmers' Hebburn Company, Ltd. The work in progress represented £440,580, as against £670,240 in the previous year, which was an exceptionally busy one, and the Hebburn yard was one of the most spacious on the Tyne and a modern one. There was a balance of £50,000 debentures in respect of that yard, which he believed would prove a very valuable asset for the company in the future, but it had not been by any means fully utilised as yet. They could lay down more berths there and would have done so if there had been a sufficiency of labour. He added that no dividend on the ordinary and preference shares could be paid until the prior lien debentures were redeemed. This was perhaps taxing the patience of the shareholders, but they were meanwhile building up the financial strength of the company, and dividends would come sooner or later. If they read between the lines in the balance sheet

they would see that a radical improvement was being steadily effected in the financial position of the company. All the departments of the works were well employed at the present time and the prospects for the future were satisfactory. The scheme for modernising the steel works and to meet the cost of which the prior lien debentures were raised was making good progress notwithstanding war conditions. But for the war the new plant would have been in operation now and increasing the revenue of the company. In addition, important extensions had been made at the blast furnaces, and in the other departments they had not lagged behind in installing new and efficient equipment.

Mr. A. B. Gowan (managing director) seconded the motion, which was agreed to.

COMPANY REPORTS AND DIVIDENDS.

Cairn Line of Steamships, Ltd.—The directors have declared an interim dividend of $2\frac{1}{2}$ per cent., as compared with 5 per cent. a year ago.

African Steamship Company.—The directors have decided to pay on October 18 an interim dividend of 10 per cent. per annum for the six months ended June 30 last, free of income-tax.

Spillers & Bakers, Ltd.—An interim dividend is to be paid on the ordinary shares of the company in respect of the six months ended August 31, 1917, of 6d. per share, being 5 per cent. per annum, less income-tax at 5s. in the £, warrants to be posted on November 1, 1917.

City of Dublin Steam Packet Company.—The directors have decided to recommend the payment of a dividend of 5 per cent. per annum, less income tax, on the 5 per cent. cumulative preference stock, and a dividend of $5\frac{1}{2}$ per cent. per annum, less income tax, on the ordinary stock of the company for the half-year ended August 31, 1917.

Manchester Liners, Ltd.—The report states that, including £20,176 brought forward, the profit for the year ended July 1, amounted to £186,772. The directors recommend a dividend of 10 per cent., together with a bonus of 15 per cent., both free of income-tax. It is also proposed that £100,000 be placed to reserve, £5,565 to debenture reserve fund, and £14,118 carried forward.

Furness, Withy & Co., Ltd.—The directors announce that warrants for the dividend on the ordinary shares at 10 per cent. per annum for the quarter ending October 31, being 6d. per share, free of income-tax, will be posted on October 31 to shareholders registered on October 16. Warrants for the usual dividend on the preference shares at 5 per cent. per annum for the half-year ending October 31, being 5s. per share less income-tax, will be posted on the same date to shareholders registered on October 16.

Granite City Steam Ship Company, Ltd.—The report and accounts for the year ended August 31 last have now been issued. The directors state that they have been unable to get any report regarding the ss. *Robishaw*, the value of which stands in the company's books as in the previous balance-sheets. They recommend that the investments held by the company, as stated in last balance-sheet at £13,406, should meantime be reduced to £10,975, by transferring the sum required from the reserve fund. The reserve fund would then stand at £4,552. It is still impossible to submit a more accurate statement of the company's financial position, or any estimate of what it may be on the declaration of peace. The directors recommend that the balance at credit of profit and loss be carried forward.

Dulcia Steam Shipping Company, Ltd.—The balance sheet shows liabilities £164,996, made up of capital £120,000 and sundry creditors and bills payable £44,996. On the assets side the cost of steamers is set down at £87,104; cash at bankers and in hand, £33,140; sundry debtors, insurances paid in advance, &c., £40,994; and balance at debit of profit and loss, £3,758, making a total of £164,996. No reserve has been made for liability for excess profits duty or income-tax since March 31, 1916. The previous statement of accounts issued was for March 31, 1916, in which year 25 per cent. was paid in dividends. The cost of steamers stood in that balance sheet at £125,000. Since then three interim dividends have been paid, viz., $12\frac{1}{2}$ per cent. actual and $7\frac{1}{2}$ per cent. actual for the financial period from March 31, 1916, to March 31, 1917, making 20 per cent.; another interim dividend of $7\frac{1}{2}$ per cent was paid on July 28 last.

W. & C. T. Jones Steamship Co., Ltd.—The directors' report and statement of accounts to June 30, 1917, shows that the net result of the year's trading, after providing for excess profits, duty and income-tax, amounted to £80,501, to which must be added £19,748, balance brought forward from the previous year's account, making a total of £100,249. It is proposed to appropriate this amount as follows:—Interim dividend at 2s. per share paid January 1, 1917, £28,000; final dividend at 2s. per share paid July 13, 1917, £28,000; re-classing account, £20,000; leaving to carry forward to next year a balance of £24,249. Only accounts for voyages actually completed on or before June 30, 1917, are dealt with in this account. The profits and dividends for the last five years are as follows:—

Year ended June	Receipts, £	Dividends, Per cent.
1913	105,268	10
1914	34,718	5
1915	90,875	10
1916	204,885	25
1917	80,500*	20

* After providing for excess profits duty and income tax.

COMPANY REGISTRATIONS.

Kildysart Steamship Company, Ltd.—Capital, £2,000, in £10 shares. Objects, to establish and maintain lines of steam and other ships between the ports of Kildysart and Limerick, or elsewhere, and to acquire the business carried on at Kildysart, co. Clare, as the Kildysart Steamship Company. Signatories:

John Meehan, Kildysart, Co. Clare, merchant, 23 shares.
Frank O'Dea, Kildysart, Co. Clare, merchant, 22 shares.

The first directors are J. Meehan, F. O'Dea, D. Moloney, T. Kenny, E. Conneally and P. Lillis. Qualification, 10 shares. Remuneration as fixed by the company. Registered office, Kildysart, co. Clare. Private company.

C. J. Fox & Sons, Ltd.—Capital, £3,000, in £1 shares (1,500 preference and 1,500 ordinary). Objects, to take over the business of a manufacturing engineer carried on at 65, King's Cross Road, London, as C. J. Fox & Sons; also to carry on the business of metal workers and merchants, shipbuilders, mechanical and electrical engineers, &c. Signatories:—

G. R. Dagnall, 10, Northcott Avenue, Wood Green, N. 22, engineer.
C. J. Fox, 129, Woodstock Avenue, Golders Green, N.W. 4, engineer.
J. W. Barneclutt, 10, Greenhill Road, Harlesden, N.W., accountant.

Permanent directors: G. R. Dagnall, C. J. Fox and J. W. Barneclutt. Registered office, 65, King's Cross Road, W.C. 1. Private company.

University Motor & Engineering Company, Ltd.—Capital, £3,000, in £1 shares. Objects, manufacturers of motor vehicles, ships, boats, launches, &c. Signatories:—

W. E. Wadden, 44, Willington Road, Stockwell, S.W. 9, typist.
W. H. Payton, 57, Danecroft Road, Herne Hill, S.E. 24, commercial clerk.

The first directors are: J. Portwine (chairman), H. E. Weller, J. D. Bulcock and F. W. Cracknell. Solicitor, J. L. Smith, 41, Finsbury Pavement, E.C. Private company.

James Marmon & Son, Ltd.—Capital, £20,000, in £1 shares. Objects: To take over the business of ship repairers and cleaners, boiler scalers and boiler composition manufacturers, carried on by T. Marmon, at Liverpool, as "James Marmon and Sons." Signatories:—

T. Marmon, 45, Regent Road, Liverpool, ship repairer.
C. S. Dyson, 2, Salisbury Road, Wavertree, Liverpool.
T. Allen, 62, King's Road, Bootle, manager.

The first directors are: T. Marmon, C. S. Dyson, and T. Allen. Registered office, 45-6, Regent Road, Liverpool. Private company.

H. G. Blair & Co., Ltd.—Capital, £4,000, in £1 shares. Objects: Marine opticians, compass manufacturers, adjusters and repairers, chronometer makers, dealers, hirers, adjusters and repairers, optical glass and lens makers, nautical instrument makers and repairers, stationers, printers, dealers in paper, paper goods, books, maps and charts. Signatories:—

G. R. Thomas, 79, Llanfair Road, Cardiff, accountant.
C. W. Edwards, 31, Cardiff Road, Taffs Well, cashier.

First directors are to be appointed by the subscribers. Solicitors, Deer & Deer, Cardiff. Private company.

NEWS PARAGRAPHS.

Cayzer, Irvine & Co., Ltd. (Clan Line).—This firm of Steamship Owners and Ship and Insurance Brokers state that on and after Monday, October 22, their address will be 2, St. Mary Axe, E.C. 3, and telephone number Avenue 7055.

Traffic on U.S. Inland Waterways.—The American Shipping Board is developing the traffic facilities on the inland waterways. A great fleet of steel, concrete, or wooden barges is to be built for employment on the canals and rivers. It is also intended to make more use of the Southern ports.

Increased Suez Canal Dues.—It has been decided that from January 1, 1918, an increase of 2.50 frs. per ton of 40 cubic ft. will be made in the dues for ships in ballast. The effect of this will be to bring the rates for laden and empty ships to the same level, viz., 8.50 frs., which, as the dues are payable at the rate of 25.40 frs. to the pound sterling, is equivalent to 6s. 5d.

Neutral Ships in U.S. Ports.—The Times Washington correspondent states that indications multiply that the United States is about to take over the neutral ships in American harbours. More than 400,000 tons of neutral shipping is now tied up in America, and the Government is determined to obtain the use of this tonnage, either by voluntary agreement or, in the last resort, by requisitioning the ships.

New Cunard Services. The Cunard Line announce that they have initiated a service of regular sailings between Glasgow and Havre, their previous connection with the French port having been limited to sailings from Liverpool and Manchester. The enormous expansion of shipments from the States to France caused by the entry of America into the war has quite overtaken the usual means of direct communication, and very large quantities of goods have had to be sent via Great Britain.

Shipbuilding at Dundee.—The Caledon Shipbuilding and Engineering Company, which has long had a shipyard at the Dundee harbour, has lately been negotiating for a large block of ground farther east. Originally the Harbour Board agreed to lease 14 acres to the company for shipbuilding purposes, but it has been decided to give 21 acres. The biggest ship ever built at Dundee was about 10,000 tons deadweight, but under the new scheme it will be possible to launch a steamer of 15,000 tons deadweight capacity.

Panama Canal Traffic, 1916-17.—The number of ocean-going vessels using the waterway during the year ended June 30, 1917, was 1,876, of which 780 were British and 464 United States, the next most important nationality being Norwegian with 150, then Chile with 99, Peru 86, the Netherlands 74, and Japan 72. In the preceding fiscal year, 1915-16, the Canal was closed by a landslide for a considerable period, and the number of vessels passing through was only 787. The number of ocean-going vessels passing through the Canal in the first twelve months it was opened (August 15, 1914, to August 14, 1915) was 1,317.

Shipyard Labourers' Wages.—On behalf of its members employed in North-East Coast shipyards and ship-repairing establishments, the National Amalgamated Union of Labour has applied for a minimum advance of 10s. per week for adult time worker and 5s. per week for youths working on time, with corresponding increases in piece prices, the increase to be such as will afford men a minimum wage of £2 10s. per week, based on the customary working hours of the district. About 15,000 men and boys are involved in the application. Most of the men are already in receipt of 40s. or over per week, but there is a minority whose wages amount to little more than 32s. 6d. per week.

New Pacific Shipbuilding Company.—The Pacific Coast Shipbuilding Company, a £1,000,000 concern whose prime object is to construct steel standard vessels for the American Government, has been formed in San Francisco, with Mr. Henry T. Scott, for 20 years head of the Union Iron Works, as its president. The plant will be situated on the south shore of Suisun Bay, near the town of Bay Point, about five miles east of Martinez and 22 miles from San Francisco. The plan has been under way for some time and the site has been acquired. A part interest in the concern has been taken by Eastern capital. This is said to be in connection with a shipbuilding plant at Boston, one of the largest in the country. The new plant will rival the Union Iron Works in size and capacity. Work on the project will begin immediately, and it is planned to launch the first ship on or before July 1 next year. The control and management will be entirely in the hands of Mr. Henry T. Scott and Mr. John T. Scott, his nephew.

Norddeutscher Lloyd, Bremen.—Carl Joachim Stimming entered the directorate of this company on September 1, and has taken over control of the cabin and between-deck department of the company's affairs. Stimming was formerly Marine-Intendantur at Kiel, and has done much work for the German Admiralty.

Canadian-Built Ships for Britain.—Orders have been placed in Canada by Great Britain for 22 steel vessels, of 3,400 to 8,800 tons, the total tonnage now under consideration being 150,000. The vessels will carry supplies from Canada to Great Britain, and are to be launched this year or early in 1918. Orders for wooden ships to the value of £2,000,000 are under consideration.

Wear Shipyard Extension.—The Sunderland Shipbuilding Company, Ltd., has acquired from the River Wear Commissioners a piece of land reclaimed from the sea on the east of the Company's present berths at South Docks, on which it is intended to make an extension of the Company's shipyard. When the extension has been laid out, it will permit of the construction of larger vessels than the Company has hitherto found it possible to undertake. Vessels built on the new berths will be launched into the South Outlet.

Canada's New Lumber Ships.—The motor-driven five-masted schooner *Mabel Brown*, launched by the H. W. Brown Company, Ltd., Vancouver, B.C., is now on a voyage with a cargo of 1,534,000 ft. of lumber for the Government of New South Wales. The vessel is built throughout of British Columbia Douglas fir. She took on her load in 10 days at the plant of the Victoria Lumber & Manufacturing Company, Ltd., Chemainus, B.C. The *Mabel Brown* is the first to take the water of many similar vessels which are now being built in Canada. She is equipped with two 160 h.p. engines of the Diesel type.

Swansea an Oil Port.—The Swansea Harbour Trust on October 8 ratified an agreement with the Anglo-Persian Oil Company, by which the company will control no less than 44,445 square yards of land, now covered by water, at the King's Dock extension, and will construct wharves, tide lines, &c., in connection with the import and export trade of petroleum and petroleum products. For the first three years a minimum aggregate rent in lieu of rates of £30,000 will be guaranteed, and afterwards a minimum of £10,000 in rates, &c., will be guaranteed for each year of the lease, which is 99 years. It is however, probable, the chairman said, that judging from the number of tank ships expected to come to the port, the annual revenue would after the first three years be no less than £40,000 a year.

Increasing British Tonnage.—According to Reuter's Agency the tonnage at the disposal of His Majesty's Government has been increased by the decision which has recently been taken to utilise, in the Government service, British-owned, or mainly British-owned, ships which are in British ports, but which have hitherto sailed under a neutral flag. As the German Government have, by their Prize Court Regulations, decided that, notwithstanding the neutral flag, they may treat these vessels as British, it is necessary, in order to protect the British capital invested in these ships, that they should fly the British flag, and be armed for their defence. In pursuance of this decision the Government have requisitioned the following Swedish ships:—*Sphinx* (1,569 tons), *Bellgrove* (1,296 tons), *Phyllis* (1,455 tons), and *Cremona* (1,225 tons). The owners of the vessels will, of course, be compensated for their use.

The Argentine and Foreign Shipping.—The proposed tax on foreign shipping using Argentine ports—one of the main features of the 1918 Budget submitted to the Argentine Legislature—has naturally aroused interest in British shipping circles, especially among the lines trading to and from the River Plate and other southern ports. The proposal is for a tax of 50 cents gold per ton net on all vessels clearing Argentine ports, and this it is estimated will yield \$4,000,000 per annum. Opposition has not been wanting against the proposal to place an additional burden upon the many tramp steamers trading to the ports of Argentina, as well as the well-known lines, such as the Royal Mail Steam Packet Company, Houlder Bros. & Co., Ltd., Prince Line, Nelson Lines, Houston Lines, L. Mport & Holt, Ltd., MacIver Line and others. Representations on the threatened tax have already been made to the Foreign Office by the Chamber of Shipping of the United Kingdom, and it is hoped that the Argentine Government will favourably respond to any requests which may be made on behalf of British shipowners.

British East Africa.—It is proposed to spend a large sum of money in providing regular steamship services connecting up Kismayu, Lamu, Malindi, Kilifi, Zanzibar, and Unguja, in view of developments arising out of the war, and all the principal ports in the conquered territory with Mombasa.

Unemployed Shipyard Workers.—The October report of the Boilermakers' and Iron and Steel Shipbuilders' Society shows only 153 members unemployed, out of a total of over 78,000. Last month the number of unemployed was 251. Mr. John Hill has been re-elected general secretary without a contest, and, by 1,959 votes to 1,211, has been chosen as one of the Society's Parliamentary candidates.

Limerick and Glasgow Steamboat Service.—At the meeting of the Limerick Harbour Board on October 8 a letter was read from the Clyde Shipping Company stating that owing to the loss of tonnage they were obliged to relinquish the direct steamboat service between Limerick and Glasgow, but they hoped to be in a position to resume the service before long. The members of the Board expressed regret, and trusted the company would soon be able to continue the trade with Limerick as heretofore.

LEAVING CERTIFICATES ABOLISHED.

INCREASE OF WAGES TO ENGINEERS AND MOULDERS.

The Minister of Munitions has now made an Order abolishing leaving certificates as from last Monday, October 15. At the same time he has had under consideration the report of Major Hills' Committee, which he appointed to inquire into the position of skilled engineers. As a result of that consideration, he has made an Order providing that the following directions shall have effect with respect to the remuneration to be paid to fully qualified skilled engineers and moulders of the class specified in this Order for work being munitions work or work in connection therewith which at the time when these directions are given is paid at time rates:

1. Workmen to whom these directions apply shall receive a bonus of 12½ per cent. on their earnings, which shall not alter or become part of their time rates.

2. The bonus payable under these directions shall accrue as from the beginning of the first full pay day following October 12, 1917, and the first payment thereof shall be made as soon as possible, and not later than the first full pay day in November, 1917.

3. These directions apply, subject to the provisions of paragraphs 4 and 5, only to fully-qualified skilled engineers and moulders rated at or above the current district time rate for turners or fitters while employed on or in connection with munitions work and paid at plain time rates without the addition of any bonus other than:—

(a) A bonus dependent on timekeeping.

(b) A bonus (not being a bonus on output) less favourable to such workmen than the bonus payable under these directions, in which case the existing bonus shall merge in the bonus payable under these directions.

(c) A war advance given to meet the cost of living as the result of or in conformity with arbitration under Part I of the Munitions of War Act, 1915.

4. These directions shall not apply to workmen of the class specified in paragraph 3 of this Order, whose wages it has been the practice to regulate by the movements in the wages of men employed in trade other than engineering and foundry trades. An application may be made to the Minister of Munitions for special directions in cases where the existing basis of remuneration for such workmen is less favourable than that of workmen of the same class to whom these directions apply.

5. These directions shall not apply to workmen paid an up-standing wage or salary which covers overtime or other allowances.

6. Nothing in the foregoing provisions shall affect the present basis of determining piece rates or premium bonus times or any other system of payment by results.

7. Any contravention of or non-compliance with these directions is punishable in like manner as if this Order was an award made in settlement of a difference under Part I of the Munitions of War Act, 1915.

8. These directions may be varied by the Minister of Munitions from time to time, but shall not continue in force after the termination of the present war.

9. Any question which arises as to the interpretation of these directions shall be determined by the Minister of Munitions.

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"SHIPBUILDING AND SHIPPING RECORD" TABLE OF SHIP SALES.

Name and Type.	Tonnage.	Dimensions. Draught in ().	Sold by, to	Builders, hull and year.	Machinery and builders.	Remarks.
Ardgorm , ss. (re-named Harland Point)	5,131 gr. 3,287 net	405' × 53' × 27½' (24' 2")	S.S. Ardgorm Co., Greenock, to Norfolk & North American Steam Shipping Co., London	R. Duncan & Co., Port Glasgow (1913)	27, 44, 73 × 48 (J. G. Kin- caid & Co., Greenock)	Price about £185,000.
Ariel , ss. (single dk.) (ex <i>Inverleith</i>)	1,136 gr. 656 net	225' × 32½' × 14½'	Rederi Aktiebolag Amaryllis, Sweden, to Rederi Aktiebolag Tertia, Gothenburg	Richardson, Duck & Co., Stockton (1883)	28½, 53 × 33 (Blair & Co., Stockton)	—
Bella , ss. (single dk.)	1,272 gr. 767 net	227½' × 31½' × 13½' (15' 9")	Donald S.S. Co., Montreal, to buyers not stated	Swan, Hunter & Wigham Richardson, Newcastle (1906)	21, 34, 56 × 36 (N.E. Mar. Eng. Co., Newcastle)	—
Cetiana , ss. (awning dk.)	939 gr. 598 net 1,100 d.w.	203' × 30' × 20½'	Luke, Thomas & Co., Vancouver, to H. C. Dinshaw, London	Grangemouth Dockyard Co., Grangemouth (1891)	17½, 27, 46 × 33 (Dunsmuir & Jackson, Glasgow)	—
Cumberland , s.v. (iron and steel)	1,849 gr. 1,740 net 2,825 d.w.	267' × 39' × 23½' (21' 4")	J. E. Scott, Barbados, to buyers not stated	R. Williamson & Son, Work- ington (1884)	—	Price about £27,500.
Ernesto , ss.	2,573 gr. 1,653 net	320½' × 39½' × 24½' (23' 3")	La Flecha Bilbao (G. H. Fletcher & Co., Liverpool, Agents), to buyers not stated	Harland & Wolff, Ltd., Bel- fast (1890)	22, 36, 60 × 48 (Harland & Wolff)	Price about £200,000.
Inger , ss. (single dk.)	1,135 gr. 681 net	231½' × 34' × 13½'	Bachke & Co., Trondhjem, tp Jas. Currie & Co., Leith	Trondhjems Mek. Værks, Trondhjem (1907)	16, 25½, 44 × 30 (Trond- hjems Mek. Værks)	—
La Epoca , s.v. (steel)	2,432 gr. 2,268 net 4,100 d.w.	293' × 43' × 24½' (24' 6")	Dodero Hermanos, Montevideo, to buyers not stated	D. & W. Henderson & Co., Glasgow (1893)	—	Price about £74,000.
Paso de Tene- lero , ss. (single dk.) (ex <i>Sajonia</i> , ex <i>Mercurio</i> , ex <i>Francis del barra</i>) (re-named Nicolas Tous- saint)	1,116 gr. 685 net	235½' × 36' × 11'	Soc. Anon. de Nav. Marina Mercante Argentina, Buenos Aires, to Mr. J. A. Dodero, Boulogne	J. Frerichs & Co., A.G., Einswarden (1906)	11½, 17½, 30 × 22 (J. Fre- richs & Co., Osterholz)	—
Rundo , ss. (single dk.)	1,112 gr. 659 net	226½' × 36½' × 16½' (16' 3")	P. A. Muscous, Aalesund, to buyers not stated	Akers. Mek. Værks, Christ- iania (1917)	17, 29, 47 × 33 (Akers. Mek. Værks, Christiania)	Price about £115,000.

MOTOR LIFEBOATS ON PASSENGER SHIPS.—We have been informed that the British Marine Motor & Launch Company, Ltd., of Whiteinch, Glasgow, have at present in hand over 30 motor lifeboats, with 20 h.p. paraffin motors, for various shipping companies.

BUNKERING COAL PRICES.—The Board of Trade have issued a series of amendments to the Directions of the Controller of Coal Mines of June 28 as to the Sale of Coal for Shipment, together with a revised schedule of prices making provision for a general increase of 2s. 6d. per ton (except in the case of shipments to France and Italy), in consequence of the war wage recently granted to the miners. This increase applies to all sales of coal for bunkering ships at ports in the United Kingdom, as well as of coal for shipment as cargo. The general conditions affecting the sale of coal for bunkering have also been modified in certain respects. Collieries are now not required to add commission when selling direct to shipowners in the case of (a) ships sailing under the British flag; (b) ships sailing under the flags of Allied nations at limited freights in the French and Italian coal trades; and (c) such other ships as may be specified from time to time by the Controller of Coal Mines.

NEW ZEALAND SHIPPING COMPANY, LIMITED.—The directors have announced to the debenture holders that, having a surplus of funds invested in 5 per cent. War Loan, they are prepared to exchange the debentures for War Loan in the proportion of £95 of 5 per cent. War Loan for each £100 of New Zealand Shipping 4 per cent. debentures. The effect of this exchange will be to raise the rate of interest received by the debenture holders from 4 per cent. to 4½ per cent. The debentures are now quoted at 90, which is about equivalent to the issue price of 5 per cent. War Loan of 95.

SEAMEN'S HOSPITAL SOCIETY.—At a quarterly court of the Governors of the Seamen's Hospital Society ("Dreadnought"), held on October 11 (Sir Percival A. Nairne in the chair), it was stated that Lord Devonport's fund now amounts to £106,700. Weekly convoys of naval ratings had been sent by the Admiralty, and a large number of men of the merchant service had been treated in the hospital, including men from the mine sweepers, minelayers and small patrol boats. The death was announced of the Chaplain of the Albert Dock Hospital, the Rev. T. H. Gilbert, and also the resignation of Sir Dyce Duckworth, one of the visiting physicians.

SHIPPING SHARE MARKET.

Business in the shipping stock and share markets has been mainly confined during the past week to a few shares. The most active stock has been Peninsular & Oriental Deferred, in which a number of transactions have taken place daily at around 325, which is about five points over the average figure of a week ago. The activity in the stock is doubtless due to the approach of the date for issuing the accounts for the financial year which ended on the 30th of last month. The final dividend was announced last year on November 13, and was at the rate of 24 per cent., making 18 per cent. for the year. The interim dividend for this year was at the rate of 12 per cent., and the market is proceeding on the anticipation that the final dividend will be at the same rate as previously. At the present dealing price of 325 the yield on this basis would be £7 7s. 10d., which is a fair return from a stock of the calibre of Peninsular & Oriental Deferred. Before the war, when the stock was

on a 15 per cent. basis, the yield was only a trifle over 5 per cent., which was only about 1 per cent. over the rate received from gilt-edged stocks. If the same ratio were now observed between the yield on this deferred stock and gilt-edged stocks the price should be such as to make the yield about 6½ per cent. The forthcoming accounts are also of exceptional interest because they include the period during which the Union of New Zealand has been under the control of the Peninsular & Oriental. Dealings in Argentine Navigation issues have not been so numerous as a few weeks ago when a dozen bargains were recorded each day. It is now stated that the Royal Mail Steam Packet Company, the Lamport & Holt line, and the associated companies will hold a controlling interest in the Argentine Navigation Company, and that three of the leading French steamship companies and an Italian shipping company will also hold a large interest in the company. Dealings have taken place during the week at about 17s., which compares with 6s. 6d. (the lowest this year) and 20s. 6d. (the highest touched during the rise last August). We refer to the financial position of the company in another column.

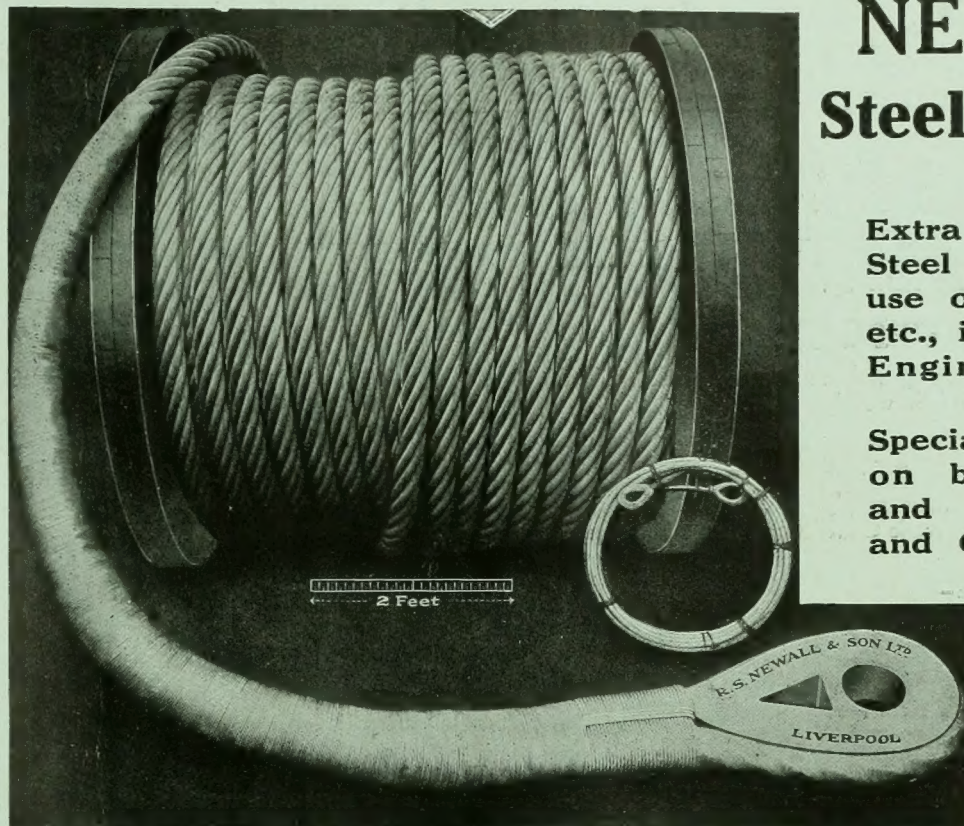
SHIPPING, SHIPBUILDING, ENGINEERING AND MARINE INSURANCE SHARE LIST.

SHIPPING.							IRON AND STEEL.							
Name.	Share and paid.	Extreme quotations, 1916.	Last ann. div. % or per share.	Yield. %	Last Quotation	Rise or Fall.	Name.	Share and paid.	Extreme quotations, 1916.	Last ann. div. % or per share.	Yield. %	Last Quotation	Rise or Fall.	
African S.S.	20	33-23½	10	6½	29		Babcock & Wilcox... .. Ord.	£1	64/6-47/10½	15	5	64/-	-1/2½	
Allan Line	100	—	4	4½	92		Baldwins Cum. pref.	1	1½-1	5½	5½	44/3	+24/3	
Anchor Line	10	9½-9½	5½	5½	9½		Do. Deb.	Stk.	87½-86½	4½	5	84		
Do.	Stk.	105½-102½	4½	4½	103		Bayliss, Jones Cum. pref.	1	—	5	7½	7½		
Argentine Nav.	1	19/6-11/-	Nil.	Nil.	23/4½	-1/4½	Bell Bros. Cum. pref.	10	10½-9½	6	6½	9½		
Do.	1	14/6-5/6	Nil.	Nil.	19/-	+1/7½	Do. Deb.	Stk.	80-78½	5	6½	75½		
Australasian Un. S. Nav. Deb.	Stk.	83½-80½	4	5	79		Besemer (Henry) Ord.	1	29/-26/-	12½	8½	29/9		
Beifast Steam	10 (5pd.)	—	5	5	5		Bolkow Vaughan Ord.	1	25/10½-18/-	11	8	26/10½		
British & African Nav. Deb.	Stk.	96½-91	4½	4½	102		Do. Cum. pref.	20	19-18	5	5½	16		
British India Nav.	Stk.	94½-88½	4½	5½	83		Cargo Fleet Iron Ord.	1	23/3-13/10½	3	3½	23/6	+1/4½	
British S.S. Invest. Trust Def.	Stk.	357-190	30*	8½	350		Do. Deb.	100	86½-84	4½	5½	82		
Do.	Stk.	108-105½	6	5½	103		Consett Iron Co. Ord.	1	89/4½-65/3	50	11½	89/6	-1/6	
Do.	Stk.	79-77½	4½	6½	74		Domination Iron & Steel ... Bds.	1	83-78	5	6½	85½	-1	
Cairn Line	Bds.	99-88	5	5½	90½-91		Dorman, Long Ord.	1	36/-22/3	14	9	42/6	+1/6	
Do.	—	—	20*	9½	44 4½		Do. Deb.	Stk.	97½-97	4	5½	73		
Clan Line	10	32½-22½	25	8½	30	+10½	Ebbw Vale Steel & Iron Ord.	1	28/7½-19/-	12½	9½	28/1½		
Court Line	£1	42/-26/-	20	13½	35/-	+10½	Guest, Keen & Ntfeilds Ord.	1	71/3-60/-	15*	3½	82/-	+1/-	
Cunard SS.	1	101/-68/-	20*	5½	74/-	-1/9	Do. Cum. pref.	5	5½-5½	5	4½	5½ xd		
Do.	Stk.	95-89	5	5½	85½		Do. Deb.	Stk.	82½-80½	4	5½	79½		
Elder Line	Stk.	99½-93½	4½	4½	99½		Hadfield's Steel Foundry Ord.	1	82/6-69/-	30	6	100/6		
Elder Dempster	1	20/6-18/1½	5½	5½	17/9		Ibbotson Bros.	5 (4 pd.)	8-6	7½	7½	6½		
Do.	Stk.	92½-88½	5	5½	86		Jeasop (W.) & Sons ... Ord.	5 (4 pd.)	9-8	15*	7½	9		
Ellerman Lines	10	9½-9½	4½	6½	8½		Lanarkshire Steel Cum. pref.	10	—	5	7½	7		
Do.	Guar. pref.	10	9½-8½	4½	5½	8½	Lysaght (J.) Cum. pref.	1	22/7½-20/3	6	6	20/-		
France Fenwick	5	98/5-92/6	5½	6½	87/6		Do. 2nd pref.	1	21/1½-21/-	6	6	20/-		
Furness, Withy	1	61/3-34/3	20*	9½	50/9	+1/5	Manganese Bronze ... Ord.	1	—	6	11	1½		
Do.	10	94-71½	5	5½	8½	-1/4	Do. Cum. pref.	1	—	6	8	—		
General Steam Nav. ... Ord.	7½	12½-8½	15	7½	22/6	-1/4	North-Eastern Steel ... Deb.	Stk.	—	4½	—	—		
Do.	1	7½-6½	6	7½	16/-		Palmer Ship & Iron "A" ... Ord.	1	12/6-9/-	Nil.	Nil.	10/9		
Houlder Line	5	83/9-67/6	5½	6½	80/-		Scott (Walter) Ord.	1	26/3-17/9	15	12	25/-		
Do.	Stk.	—	4½	4½	93		Do. Pref.	1	16/10½-16/3	6	7½	16/3		
Houlder Bros.	5	—	5½	5½	4		Sheffield Forge Ord.	1	—	15	7½	69/-		
Do.	Stk.	—	4½	5½	82		Shelton Iron & Steel ... Ord.	1	20/4½-15/-	7½	8½	21/-		
India Gen. Nav. & Rly. ... Ord.	10	12-8½	6	5½	10½		Do. Deb.	100	94-92½	5	5½	91½		
Indo-China N.	5	5½-90/-	6	6½	90/-		S. Durham Steel & Iron Ord.	1	37/6-27/-	10	6½	37/10½	+1/1½	
Irrawaddy Flotilla	40	—	15	5½	116		Do. Cum. pref.	1	21/-19/-	6	6½	20/-		
Khedivial Mail	1	37/-10/-	25	13½	35½		Do. Deb.	Stk.	82-80	4½	5½	80		
Do.	5	77½-60/6	5½	7½	75/-		Steel Co. of Scotland ... Ord.	10	—	10	10	12/1/-		
Do.	Stk.	94½-87½	4½	4½	95		Stewarts & Lloyds Pref. ord.	10	18½-17	10	6½	16		
King Line	1	—	16*	9½	36/6	-1/6	Do. Cum. pref.	10	—	6	4½	13½		
Lamport & Holt	£1	20/9-18/9	6	6	19/6		Stone (J.) Cum. pref.	10	—	5	6½	8		
Leyland (F.)	10	8½-6½	5	6½	7½	+1/4	United States Steel ... Ord.	100½	144½-83½	8	6½	116xd		
Mercantile SS.	5	18½-12	40	13	15½		Do. Cum. pref.	100½	128½-112½	7	5½	122½xd		
Do.	1	20/1½-20/-	5	6½	15/-		Vickers Ltd. Ord.	1	40-33/6	12½	6½	39/1½	+1/1½	
Moor Line	10	—	30	13½	22½		Do. Pref.	Stk.	93-85	5	6	83	-1	
Nelson Steam Nav. ... Deb.	100	98½-97½	5	5½	98½		Do. Deb.	Stk.	83-75	4	5½	79		
New Zealand	£10	—	8	2½	32½		Weardale Steel Def. ord.	1	34/-19/1½	19½	13½	29/-		
Do.	Stk.	90½-88	4	4½	86		Do. Cum. pref.	1	23/6-17/6	6	5	24/6		
Nitrate Producers SS. ... Ord.	5	25½-18	30	6½	24		Do. Deb.	Stk.	70½-69½	4	6	63		
Do.	5	—	5	5	5		Workington Iron & Steel Ord.	1	24/3-14/3	10	7½	25/9	+1/3	
Oceanic Steam Nav. ... Deb.	100	99-95½	4½	4½	97									
Orient. Stm. Nav. Co. Cum. pref.	10	9½-9½	5	5½	9									
Do.	100	98-91½	4½	5½	89									
P. & O. S. N.	100	100-91	5	5½	92									
Do.	100	349-270	18	5½	327	+5½								
Do.	Stk.	71-69	3½	5½	63									
Prince Line	1	95/-26/-	30	7½	90/-	+1/7½								
R.M.S.P.	100	134½-97½	7	6½	112½	+1/4								
Do.	Stk.	88½-76½	5	6½	86½									
Do.	Stk.	89-86	4½	5½	79½									
Shaw, Savill & Alb. Cum. pref.	5	95/-88/3	5½	5½	85/-									
Shell Transport	1	6-4½	35	5½	5½									
Do.	10	10½-9	5	5½	98									
Sutherland SS. Co.	£1	69/6-41/6	30	10	52/-									
Union-Castle SS.	10	71½-7	4½	5	7½									
Do.	Stk.	92½-86½	4	4½	87½									
West Hartlepool	10	8½-7½	5½	7½	7½									
INSURANCE.							SHIPBUILDING AND MARINE ENGINEERING.							
Alliance	20 (2½ pd.)	10½-8½	12-	7	9½	-1½	Armstrong, Whitworth Ord.	1	43/-34/6	12½	7	38/9	-1/1½	
Indem. Mutual Marine ...	15 (3 pd.)	13½-9½	15/-	5	20½		Do. Cum. pref.	Stk.	75/-67/6	4	5½	68/-	-2/-	
London Assurance ...	25 (12½ pd.)	52½-42½	20	6	56xd		Do. Deb.	Stk.	80½-75	5	6½	76		
Marine Insurance ...	25 (15 pd.)	36½-33½	45/-	8	55½		Beardmore (W.) Deb.	100	99-92	4½	5	91		
Merchants' Marine Insurance	10 (2½ pd.)	74-71/3	10	6	94½	-1/4	Brown (John) Ord.	1 (15s. pd.)	27/3-20/6	12½	8½	27/6	+1/-	
N. British & Mercantile Ord.	25 (6½ pd.)	34½-29	40/-	6½	34½		Do. Cum. pref.	10	10-5½	5	5½	8½		
Phoenix Assurance ...	10 (1 pd.)	72-5½	40	7	7½	+1/4	Cammell Laird Ord.	5	7-98/-	10	8	7½		
Reliance Marine ...	10 (2 pd.)	—	20	4½	7½		Do. Cum. pref.	5	88/-76/3	5	6½	85/-		
Royal Exchange Assurance	Stk.	189½-181	10	5½	22½		Do. Deb.	100	93½-85	4½	5½	81		
Sea Insurance ...	10 (2 pd.)	192-194	10	6	27½		Dunlop (Jas.) Ord.	1	19/7½-13/4½	10	10½	19/-		
World Marine, Limited ...	5 (2 pd.)	61/3-35/-	5	4½	6½		Do. Cum. pref.	1	17/1½-16/4½	6	7½	17/6		
							Fairfield Shipbldg Cum. pref.	10	8½-8½	6	7½	8½		
							Fleming & Ferguson ... Ord.	10	100½-99½	4½	4	100½		
							Gray (Wm.) Deb.	100	15½-14	12½	5½	23		
							Hawthorn (R. & W.) Leslie Ord.	1	7/9-2/10½	5	8½	6½	-1/4½	
							Henderson (D. & W.) Cum. pref.	1	15/7½-8/-	Nil.	Nil.	16/9		
							Richardsons Westgarth Ord.	1	69-67½	4½	6½	65		
							Do. Cum. pref.	Stk.	—	5	5	9½		
							Do. Deb.	1	—	82-80½	4½	5½	78	
							Simons (W.) Cum. pref.	10	38/9-21/9	17½	9½	39/-	-1/6	
							Swan, Hunter & W. R. ... Ord.	1	15/6-16/3	5	6½	17/10½		
							Do. Cum. pref.	100	95½-88	5	6½	84		
							Do. Deb.	1	—	10	5	2		
							Thornycroft (John I.) ... Ord.	1	1-1	5	5	—		
							Do. Cum. pref.	1	—	5	5	—		
							Do. Deb.	1	—	5	5	—		
							Wallend Slipway ... Ord.	1	—	5	5	—		
							Do. Cum. pref.	1	—	5	5	—		

* Including bonus.

† Also 20 % in shares.

‡ Treasury price.



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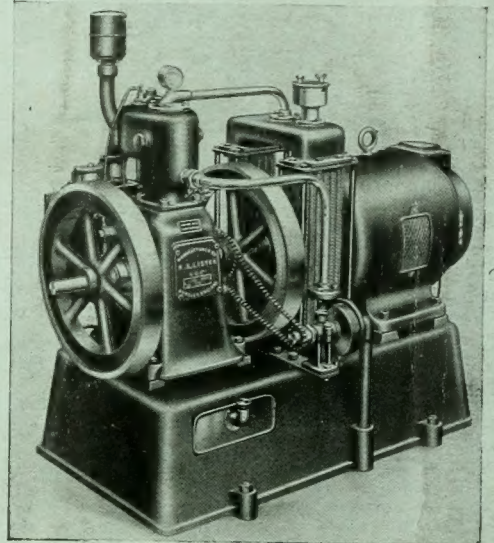
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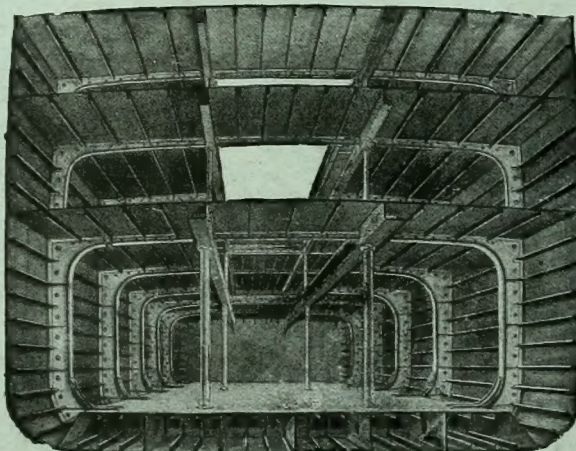


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